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F A M I L I A R  
M E D I C A L S U R V E Y

O F  
L I V E R P O O L:  
Addressed to the *Inhabitants* at large.

C O N T A I N I N G

Observations on the *Situation of the Town*; the *Qualities and Influence of the Air*; the *Employments and Manner of Living of the Inhabitants*; the *Water*; and other *Natural and Occasional Circumstances* whereby the *Health* of the Inhabitants is liable to be particularly affected. With an Account of the *Diseases* most peculiar to the Town; and the *Rules* to be observed for their *Prevention and Cure*: Including Observations on the *Cure of Consumptions*. The whole rendered perfectly *Plain and Familiar*.

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By W. MOSS, SURGEON, LIVERPOOL.

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L I V E R P O O L:  
PRINTED BY H. HODGSON,  
AND SOLD BY T. AND W. LOWNDES, LONDON.  
MDCCLXXXIV.

1784

LXXXIX



T O

COLONEL TARLETON.

S I R,

THE lustre your gallant services have reflected on the *British Arms*, will ever be remembered and *universally* acknowledged. And although the unfading laurels you have already won can need no additional splendor ; yet every *Englishman* must anticipate the security and superior advantages this kingdom may on any future occasion derive from the exertions and tried abilities of an intrepid, loyal and patriot Soldier.

ii.

## DEDICATION.

YOUR acceptance of this *little Treat*; on some subjects that relate to the health of your native town, whose great commercial importance has been essentially promoted by your long and much respected family; will confer a very high obligation on,

Sir,

Your most obedient, and

humble Servant,

*William Moss.*

LIVERPOOL, MAY 23d. 1784.



## P R E F A C E.

**I**T was an observation, made more than two thousand years ago, by the great parent of Medicine (*Hippocrates*), that it is necessary to a successful practice of the healing art, to be acquainted with whatever relates to the nature of the *climate* and *seasons*, the *influence* of the *winds* and *weather*, the *water*, and *situation* of the *place* where such practice is conducted. And such has been thought the importance of these inquiries by succeeding ages in every department of the profession of medicine, that they have been sedulously prosecuted by the most judicious of the *Faculty* in this and every other enlightened country of the world.

THESE are objects however that become equally fit and requisite for the notice and attention of the *public at large*; by whom they may be attended to with singular advantage: and as they are chiefly branches of natural philosophy, are of very easy attainment, and may be made entertaining as well as useful; and it is much to be regretted that they are so little generally known and understood.

How few persons are properly informed, or even at all conscious, of the particular influence which *the state and qualities of the air, the water, and the situation of the town or country*, in which they live, have on their constitutions, compared with the effects of the same causes in other towns and situations? for every situation has its peculiarities, and differs from others, in these respects.

THE *Medical Faculty*, from daily and necessary observation, are undoubtedly most likely and best qualified to ascertain these subjects, and explain them to the public.

Was this generally practised throughout this kingdom, it might furnish such information as would enable all persons to judge what town, or other particular situation, would be best suited to their respective constitutions; when a choice is *admitted of* for either a partial or entire residence: and when *not* admitted of, would afford such rules and cautions, as might be observed and practised to alleviate or prevent the bad effects resulting from unfavourable peculiarities in the situations to which they are *necessarily* limited.

ONE reason, perhaps the principal, why the Medical Faculty so rarely engage publickly in

in these partial inquiries, is the very striking disadvantages which every local literary production labours under, and of which I am fully sensible in the present instance. I have a confidence, however, that the distinguished liberality and candour of the more respectable of the *Medical Faculty* of the town, will secure me from the invidious opposition which a contemporary often experiences. And I have much to hope from the indulgence of a generous *public*, from whom, a stranger and unpatronized, I have experienced many voluntary obligations.

My motive in offering this publication to the town, is, purely that of a citizen desirous to throw in his mite for the public weal; hoping, at the same time, thereby to induce others, more abundantly gifted, to follow the example with larger donations. And I shall with great pleasure look forward to the time when this subject shall be re-assumed, extended and improved by those of the *Medical Faculty* of the town, whose conspicuous and growing abilities render them so fully equal to the task.

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## E R R A T A.

Page 10--l 5 for 1774 *read* 1784.

15--l 11 for irresistable *read* irresistible.

63--l 15 for is *read* his.

64--l 20 of the note, for confidential *read* confidential.

65--l 2 of the note, for ditto *read* ditto.

ditto--l 10 of ditto, for benevolent *read* benevolent.

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### *Lately Published :*

AN ESSAY on the MANAGEMENT,  
NURSING and DISEASES of CHILDREN,  
and PREGNANT and LYING-IN WOMEN ; particularly designed for Family Use.

By *W. Moss*, Surgeon.

*London :* Printed for J. JOHNSON ; and Sold by the  
Bookfellers in *Liverpool*.

A

## MEDICAL SURVEY, &c.

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### *Incidental Reflections.*

**I**T is scarce possible to reflect upon, much less to attempt an inquiry into, any circumstance that relates to this populous and extensive town, without adverting to the extraordinary advancements which have taken place in a very short space of time. The annals of the English history do not furnish a circumstance similar to that of the rapid progress which the town has made in extent and importance. By accurate computations, it appears, that in the year 1773, “ the town

B

“ had



“ had doubled its inhabitants in 25 years;  
 “ and had at that time upwards of six times  
 “ the number which was in it at the beginning  
 “ of this century”:\* and it seems at this  
 time (the year 17<sup>8</sup>~~7~~4) in a state equally flourishing. So that, from being originally “ a  
 “ *poor fishing town*”, it has risen to a degree  
 of importance, that is felt and acknowledged  
 in most commercial countries of the world.

COMMERCE—that grand source of wealth—  
 has, from time to time, enabled the inhabitants of Liverpool to make greater efforts for its improvement and extension, than are to be met with in most, perhaps any, other parts of the kingdom, from the same cause. The accommodations for shipping (in the mercantile department) are said to stand unrivalled, if not unprecedented, *throughout the world*: and it is difficult to say, whether the appearance of the *Docks* conveys more of the sublime or the beautiful, to the mind of the contemplative observer. The *stranger* cannot restrain his feelings; and seems fixed between pleasure and astonishment. For the  
 ships

\* History of Liverpool.



ships are brought so much into the heart of the town, by the rising flood ; and there detained, during the reflux of the tide, suspended afloat, in capacious basons, perfectly secured from every assault of the weather ;

“ The spacious basons *circling walls* inclose  
 “ A sure defence from ev’ry storm that blows”:

*Pope’s Hom. Odes.*

that a magical combination of the elements seems to conspire, to afford an opportunity for the rich teeming vessel to pour, with the utmost facility, and without the slightest interruption, her fruits and treasures, the produce of every clime, into the laps and store-houses of the elated inhabitants.

THERE is not, perhaps, a place within the confines of the globe, where scenes, so interesting to human nature, are more frequently exhibited, than on the arrival of ships from our connections and possessions abroad ; as scarcely a vessel can arrive from those parts, in which a majority of the inhabitants are not nearly interested, or immediately affected ; some, by the ties of nature ; some, by friendship ; and others by interest—all remotely.—

As signals are displayed on a very conspi-

cuous eminence\* near the sea, discovering the approach of the ships; intelligence is, by that means, generally given of the appearance of a particular ship, some hours before the vessel can be descried from the town. The ringing of bells, at one of the churches; and the discharge of cannon, from the welcome, perhaps long expected, ship; proclaim, to the inhabitants at large, her nearer approach; who flock in numbers at the glad summons, to participate of the pleasing sight: some, with the agreeable prospect of having their anxieties and commercial labours rewarded by the valuable productions of the various countries of the globe; some, expecting to be gratified with an account of their correspondents and long unseen friends, whom a regard for their employers, and yet nearer families and connections, still detains in distant, unhealthy, and, perhaps, savage and inhospitable climes. The stately vessel, as if conscious of her importance, and impelled by the wishes and acclamations of the enraptured multitude;—for, who can be an  
unconcerned

\* BIDSTONE Light-house, in Cheshire, at about the distance of three miles from the Town; where each mercantile house has a private signal.

unconcerned spectator of so interesting a sight?—with distended sails, seems to press forward with increasing speed; \* 'till at last, she glides smoothly, serenely, and gently into her peaceful haven,

“ *Wherein the waves without a murmur glide,  
And ships, secure, without their halbers ride:*

\* \* \* \* \*

“ *For here, retir'd, the sinking billows sleep,  
And smiling calmness silvers o'er the deep.*”

*Pope's Hom. Odes.*

and lands her joyous crew upon the very thresholds of their habitations.

THE fond mother, hastily quitting her infant charge, presses forward amid the undisturbed congratulations of the thronging multitude, to claim the long wished for embrace of an indulgent and affectionate husband: and although at a distance, and disguised in the uncouth habiliments, best suited to the watery element, she readily meets his no less anxious and discerning eye—guided by a sympathetic influence, as powerful and

B 3

unerring

\* The nearer any object approaches, when in an oblique direction especially, the more its speed and velocity seem increased.

unerring as the magnetic needle which directed his perilous wanderings o'er the dreary bosom of the vast trackless ocean:—and the happy pair mutually enjoy those silent transports, so faithfully and exquisitely descriptive of the feelings of an untutored dilated heart.

—How sweet the conflict of the affections, in congenial breasts, where each warm emotion rises conscious and responsive of the other!

—SHOULD, however, alas!—which but too, too frequently happens—should that tender and faithful partner, as she urges her way thro' the gathered throng, meet, instead of their congratulations, the serious pitying countenances of her intimates; her portending fears give the alarm, *that all is not well*:—fear, however, but urges her speed:—till at length; except some kind friend, throwing aside a mistaken lenity, cautiously and tenderly unfolds to her a hint but too much confirming her alarming suspicion; she suddenly hears from the unwary babbling croud, that her promised blessing is defeated—that her comfort, her happiness—perhaps, her only support—is left upon a foreign shore, a victim to the inclemency of a pestilential climate—never, never to return—her husband;

band; their mutual endearments; her children; by turns invade her distracted imagination:—human nature is powerfully assailed; and, after other lesser and ineffectual efforts, seeks for relief in her wonted last resource,—a burst of grief;—but that is denied her;—the agony is too powerful; her powers too weak. A deep, struggling sigh, reaches not, or seems to die unuttered on the pale quivering lip of the hapless widowed sufferer; who, overwhelmed by the irresistible pressure of her miseries, silently sinks, amidst a sympathizing multitude; whose joys are for a while suspended, and give way to more tender and exquisite effusions of the human heart.——  
—*Sensibility* pays its tribute, and confesses the DIVINITY in *man*!—

STOICISM may have been the *boast* of former ages and foreign climes: thanks to the happy age and society in which we live, the sympathy of human nature is a prevalent and distinguishing feature; particularly of the British character, as even our enemies are conscious of and acknowledge, and have of late been inspired with a spirit of emulation.\*

B 4

——Sorrow

\* The transactions at and before *Gibraltar*, during the course of the late war, will be ever memorable instances, and will, alone, warrant these assertions.

—Sorrow for another's woes finds an easy access, and is seldom unacceptable to the human breast. As an according note, it passes with grateful vibrations involuntarily to the heart; and is in unison there: there however, happily, it settles not: but, after a tender momentary conflict, reverberating,\* diffuses its harmonious assuasive influence o'er the afflicted mind from whence it had its source; and, by participating, soothes the throb of agonizing distress, that unallayed might distract and overcome a heart oppressed *with sorrows all its own.*

\* - - - - - "if our virtues  
 "Did not go forth of us, 'twere all as if  
 "We had them not. Spirits are not finely touch'd,  
 "But to fine issues." - - - - -

*Shakespeare.*

*is best  
 A persons back stick true to what  
 To think of pleasing all is all a pain*

*General*



*General Observations.*

**I**T cannot be doubted that the healthfulness of every town, village, and even villa or single house, depends much upon, and is materially affected by, its situation; as well with respect to the spot upon which it is placed, as the circumjacent country. Some parts of a town or village are generally found to be more healthful than others: and the salubrity of a single house in the country, will depend a good deal upon the exact spot on which it is placed.

IF a house is to be built, whether in town or country, in a situation that is flat and low, no doubt, if a spot of rising ground can be found, it will be the most eligible, as it will be the most airy and free from damps; which must render it much more healthy than if such choice, advantage and precaution, were disregarded. On the other hand, a situation may be too elevated and exposed; rarely, however, in a large town; yet, with respect to detached buildings, in a hilly or mountainous country, the summits of the hills will, from extreme exposure, be not only more

more unpleasant and uncomfortable, but also less salutary and grateful to the human constitution, than the sides or vallies.

TOWNS are always esteemed less healthful than country places. This rule is not, however, without its exceptions: for if a town, altho' large, is placed in a healthful situation, with respect to the adjoining country and other natural advantages, it will undoubtedly be much more healthful than the most elegant villa, with all the assistance it can derive from labour and art, if it wants natural advantages. It is not, however, to be doubted that, *cæteris paribus* [under similar circumstances] with respect to situation, the country will always be entitled to a preference.

IN inquiring into the causes that may operate as favourable or injurious to the health of the inhabitants of large towns, we are led to attend to different circumstances; as; the *situation* of the town and adjoining country, sea, or rivers; the *qualities* and *influence* of the *air*; the *internal disposition* and *regulation* of the town, respecting the *structure* of the *houses*, and the *situation*, *formation*, and *cleanliness* of the *streets*; the *number* and *employments*



*ployments of the inhabitants, and their usual manner of living ; and the water.*

As the subject of this inquiry is intended to be confined to the town of Liverpool, I shall attempt to distinguish and particularize the causes which conspire to make it more or less healthful than other large towns ; to point out the parts of the town which are more or less healthful ; to enumerate the diseases which most frequently prevail, and which may be said to be most peculiar to the town ; and endeavour, from a comparative view of the whole, to ascertain the most eligible means of avoiding those prevailing diseases, by guarding against and obviating the disposing causes.

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*Of the SITUATION of the TOWN and adjoining COUNTRY ; the AIR ; SOIL ; and different OCCASIONAL CIRCUMSTANCES.*

LIVERPOOL, with respect to *situation*, has many natural beauties to recommend it to the attention of the observer ; art has, however, supplied a great deal, and rendered

rendered the town and neighbourhood pleasant and engaging. \*

THE situation of the town, as it affects the health of the inhabitants, has many natural and considerable advantages. From being situated upon the eastern banks of an open extended river, which has a near communication with the sea, the west side of the town is limited to, and confined in, nearly a straight uninterrupted line; by which its whole extent, on that side, becomes freely exposed to the fresh and unpolluted air of the sea, and an open country from the Cheshire shore: and as the westerly winds prevail a great part (nearly two thirds as is generally supposed) of the year, and that frequently in excess, the town is kept very regularly purified, ventilated, and freed from the lodgment and accumulation of vapours, and effluvia of various kinds, which, by retention, become highly deleterious, and unfavourable to mankind. The strong gusts  
of

\* The town is still capable of much improvement in its streets, which in the interior parts are too narrow. The foot-paths are in general paved with small pebbles, which all strangers observe are sensibly rougher, sharper, and more uneasy to walk on, than in other towns; the custom of laying flags not having yet generally obtained, altho' much to be wished for.

of wind which come from the western quarter, so frequently throughout the year, are most singularly efficacious in these respects; and most especially so in the autumnal seasons; as they remove, or greatly abate, the bad effects which regularly ensue from summer's heat and continued calm weather, in large and crowded towns. \*

IF

\* Diseases, accompanied with symptoms of putrescency, more or less, always occur, and become epidemic, in the *autumn*, in Liverpool. They commonly commence about the latter end of August, and continue, most urgent, through September, or until we have some brisk gales from the west, or north-west, which as certainly check them; and they seldom sensibly abate before these gales happen. These diseases usually vary in their appearances every season: they are always attended with more or less of fever; sometimes with rashes; and frequently with affections of the stomach and bowels, accompanied with loosenesses and fluxes, as happened in the autumn of the last year, 1783. This disposition in the fluids of the body to putrescency, is seldom or never effectually obviated and subdued before the frost sets in; as symptoms of, or a tendency to, putrescency may mostly be discovered in the febrile complaints that occur previous to the setting in of the frost (which rarely happens sooner than Christmas); very rarely, however, afterward. As this disposition of the fluids is the most unfavourable that can happen in the *small-pox*, the autumn becomes the least eligible season for inoculation; and, from the power which frost has of subduing putrescency, independent of the mechanical, perhaps

If we examine the furrounding country, we shall find it every where, near at hand, free from *morafs*, *ftagnant water*, *wood*, or any other *caufe* or *caufes* that can in any material degree confpire againft, and are known to be unfriendly to, the human constitution.

The *foil* is *fandy*; which promotes the ready abforption, and, of courfe, prevents the ftagnation, of rain and other waters; which, I have elfewhere obferved, \* contribute effentially to the health of the town.

FROM

haps *specific*, power of cold in that difeafe, frofty weather, in whatever winter month it may happen, is the moft defirable. Thefe I do not, however, offer as opinions founded altogether upon the arguments here adduced: they have long been confirmed by my own practice, and the obfervations I have made on that of others; as I have invariably found the inoculated fmall-pox confiderably more mild and favourable after the froft has fet in, and during froft, than before. During the froft, is alfo much fuperior to the fpring, for inoculation; as, in the fpring, the fame difpofition to putrefcency is fubject to return: and it has been obferved by *Baron Dimsdale*, and fome other diftinguifhed inoculators, that the quantity of pultules from inoculation is generally greateft in the fpring.

\* In an Effay on the Management and Difeaſes of Children, and Pregnant and Lying-in Women, p. 262.

FROM the reasons here assigned, the *air* of Liverpool must be, as it is, much more pure than it is commonly found in many parts of the kingdom; and which renders the town, in proportion to its size, much more healthful than most other large towns. §

NOTWITHSTANDING the generally pure and healthful state of the air of Liverpool, it has, like every thing in nature, its occasional imperfections: the only, or principal of which are; its being subject to sudden and frequent variations in temperature, and being more than usually sharp and keen; whence it becomes unfavourable to some constitutions, those especially where there is an inclination to complaints of the breast, as, *asthmas, coughs,* and *consumptions*, (as will hereafter be explained in treating of the diseases peculiar to the town): its salubrity, however, in other respects, overballances these disadvantages.

By

§ THE air of the town, when the wind blows from the sea, is much loaded with salt. It does not, however, appear, by observation, that this circumstance affects the health of the inhabitants. It has its inconveniences in some other respects; particularly, in tarnishing and rusting all sorts of metals; and is the reason why plate, and all polished metals, are with so much difficulty kept clean and bright.

By a series of observations made by the ingenious *Dr. Dobson*, and inserted in the *History of Liverpool*, it appears, *by the Thermometer*, that the air is more temperate, with respect to the extremes of heat and cold, in this than in many inland towns.\* From which it might, at first sight, be inferred, that the air will be more regularly mild, and genial. This, however, is not the case. It is not the extreme degrees of summer's heat or winter's cold, or that of any other intermediate season, that will govern this circumstance; but, the regular and daily temperature of each season. The Thermometer will measure *mechanically* the degrees of the heat or cold of the air; but does not, in the smallest degree, discover its other qualities; and leads not to the least idea or test of its influence, in many other respects, on the human body; which depends upon a variety of concurring circumstances, as, its dryness or moisture, weight, state of purity, &c. that can only be gathered from close and repeated attention to its effects.

IN

\* It is to be regretted that this accurate observer has not given the direct variations of some other parts of this kingdom; what others he has noticed, are those of some parts of Asia and America.



IN most of the northern countries of Europe, the extreme degrees of summer's heat and winter's cold greatly exceed those of England: but the seasons, there, advance in so-regular and progressive a manner, and the inhabitants are in general as regular in the changes of dress, that they find little or no inconvenience from such varieties. The case is, however, widely different in this kingdom, where frequently in the course of a week, and even a day, we experience the varieties of different seasons, and, that, alternately throughout most parts of the year. These variations become peculiar to this kingdom, on account of its insular situation, nearly contiguous with the Continent; as they are not observed in Holland, and some other countries on the Continent of Europe, in the same latitudes with us.\*

C

THE

\* No doubt the hardiness which the first natives of these kingdoms possessed in a degree superior to those of most other nations of the world, may be chiefly attributed to the variations in the temperature of the air we are treating of; as nothing contributes more to strength of constitution (in a healthy state) than exposure to those alternate and sudden varieties; and which are borne without much, or any, sensible inconvenience, when

THE sea-coasts of the kingdom are in general subject to greater and more frequent varieties in the temperature of the air than the inland parts : and on this coast, and especially this part of it, the variations are more considerable than on many others ; occasioned by some particular circumstances relating to the adjoining sea-coast.

By experiments made in the year 1772, by Dr. Dobson, and communicated to the Royal Society, it appears, that the variations in the temperature of the sea are considerably greater contiguous to Liverpool than on many other  
other

when sustained from infancy without the interruption of indulgencies. The refinements and habits of latter ages so far weaken the constitution by constant and habitual indulgencies, from a very early period of life, that scarce a resemblance of the original character is to be discerned, except in the highlands of Scotland.---A middle line might be pursued, in forming the constitution to the climate, consistent with the purposes of rational recreations, amusements and enjoyments, and without infringement on the usages and decorums of the present age; and which *ought* to be a material object in the education of children. The constitution is susceptible of unfavourable forms and impressions, at early periods, that will not admit of being counteracted or reversed at a more mature age.



other parts of the sea-coasts of the kingdom, owing to the shallowness of the adjacent sea. It is well known, that the shallower any pieces or portions of water are, the warmer they are in summer, and colder in winter; and that the quality of the air, particularly its temperature, is chiefly governed by and depends upon the tract, whether of land or water, over which it passes. The sea-breezes from the north-west, therefore are warmer here in summer, than upon those parts of this coast where the adjoining sea is deeper, and proportionally colder in winter. In the spring and autumn also, they are found to be regularly colder. \*

THE strong and frequent gusts of wind from the north-west (which come directly from the sea) - in the vernal and autumnal months, most commonly attended with showers of rain, and which oftentimes instantly succeed the mild and gentle breezes of the south, are

C 2

piercingly

\* ALTHOUGH these westerly winds, which come from the sea, are warmer here in the summer than on most other parts of the coast; yet they are much cooler than in any inland part. For notwithstanding the temperature of the adjoining sea is in the summer nearly equal to the heat of Matlock bath, (or 68 degrees); yet it is considerably colder than the surface of the earth, by which the temperature of the air of an inland country is always governed.

piercingly, uncomfortably, sharp ; and their coldness is much more sensibly felt than that of a gentle north-breeze, which, *by the Thermometer*, can be proved to be some degrees colder.—Every shift of the wind is more apparently discovered here than in the inland parts.

THE *west* and *south-west* winds are more than usually cold, from coming over the very high and extensive Welch mountains, situated in that direction.

THE *south* wind comes over a tolerable level track of country, and therefore preserves much of its native warmth.

THERE is nothing particular in the temperature or effects of the *north* and *east* winds. The town is somewhat sheltered from the *east* and *north-east* winds by the rising ground at *Everton* and *Low-hill*.

FROM what has been observed, it may be inferred ; that altho' the temperature of the air of Liverpool may, by the test of the *Thermometer*, appear to be less variable in the two extreme points of *summer's heat* and *winter's cold* than in many other parts of the kingdom : yet, it also appears, and is as certain, that the *daily* variations are more frequent, sudden and considerable ; and what is  
most

most immediately to the purpose, that the human body will, in certain situations, be more sensibly affected by such frequent and sudden variations in temperature and qualities, than where the *daily* temperature is more regular, notwithstanding the *seasons* may be more in extremes with respect to the mechanical degrees of heat and cold.

FROM a review of the preceding observations, it appears, that the air of the town is, from the situation of the town, in a state of considerable purity; but that, from particular circumstances attending the situation, its temperature is unusually variable; and, that the westerly winds (from north-west to south-west, which are supposed to prevail two thirds of the year) are more keen and sharp than in most other parts of the kingdom during the spring, autumnal and winter months; at which periods their influence on the human body is of considerable importance, and is particularly felt and distinguished.

—IN applying the foregoing considerations to the purposes of health, we shall find, that the situation of town is, in general, very healthful; and that it is particularly favourable to constitutions that require and can

bear a *sharp cold air* ; of which description are those of *nervous relaxed habits*, to whom, in most instances, it proves very friendly and favourable: the *healthy* will also have their health preserved by it. The occasions in which the situation of the town becomes unfavourable, are with those persons who are subject to *coughs, asthmas, and other affections of the breast and lungs*, and are *consumptive* ; as these are complaints that are aggravated and renewed, and even promoted in constitutions so inclined, by frequent irregularities in the temperature of the air, and its general cold, sharp state.\*

AS an addition to the *natural* purity of the air, we may add, its being regularly, throughout the year, impregnated with the aromatic effluvia of *tar* and *pitch*, which are in constant circulation through the town ; more especially when the wind is westerly ; and which are well known to be remarkable correctors of the air, and particularly calculated to obviate and resist the power and progress of many infectious diseases.

A

\* SEE the account of the prevailing diseases of the town, in the following part of this work.

A convenience is erected for the purpose of disperſing, throughout the town, the *ſmoke of tobacco*.\* *Tobacco* is alſo well known to be a powerful corrector and reſiſter of infection and infectious diſeaſes.

THE *Oil-houſe*§ has been thought to infect the air of the town with ſomething unfavourable to the health of the inhabitants. This opinion is however chiefly, if not altogether, imaginary; as it does not appear, from philoſophical reaſoning and experience, to produce any bad effect. Its ſmell, which is in the higheſt degree nauſeous, and may be ſenſibly perceived to a great diſtance in the direction of the wind, created the alarm of its injurious qualities; which, however, are of a nature and quality ſomewhat ſimilar to ſpirit of hartſhorn, which, however offensive, cuſtom reconciles to the noſe as well as the

C 4

palate

\* THE *Tobacco*, made uſe of on this occaſion, is that which has been damaged and rendered unfit for other uſe by being wet with ſalt water, &c.

§ AT the ſouthern extremity of the town, for obtaining oil from the blubber of the whale.

palate, on account of its being esteemed friendly to the human constitution.†

THE *Copper-works* have been thought remarkably baneful. It does not, however, appear, in whatever light they are considered, that, independent of the disagreeable and unpleasing effect of an incessant stream of smoke, and which is too distant from the town to be troublesome, they are perfectly harmless, and, on some accounts, may become even salubrious; as might be explained by a variety of *chemical* and *medical* experiments and observations. What issues from the copper-ore during its fusion, and which destroys and injures the vegetation of the neighbouring fields, is a *sulphur*\*, with which the ore  
abounds,

† THE *effluvia* of simply putrid animal substances very rarely, if ever, become the cause of infectious diseases; what proves the common source of these complaints, is the confined *effluvia* of *living* animal bodies; hence, the prevalence of malignant, pestilential diseases, in close confined situations, where pure renovated air and cleanliness are wanting.

\* SOME ores of copper contain a small quantity of *arsenic*, which flies off in the melting of the ore along with the sulphur, with which it is intimately mixed and compounded: but as arsenic, although the most deadly  
of



abounds, and which flies off in the melting of the ore; and, from its weight, soon preponderates and falls to the ground; therefore its influence, if deleterious, is very limited. Sulphur abounds with the *vitriolic acid*, or *oil of vitriol* as it is commonly called: and although this acid, as well in its detached as combined state, is fatal, as all acids are, to vegetables, † as also to most insects, when in the

of all poisons, is rendered mild and innocent when compounded with large portions of sulphur; so on this occasion, from its trifling quantity and the large proportion of sulphur with which it is united when detached from the ore in fusion, it (when it happens to be contained in the ore, which is only accidentally and occasionally) is rendered harmless.

“SULPHUR remarkably abates the virulence of arsenic; compositions of arsenic and sulphur being far less poisonous than the pure white arsenic, and those, in which the quantity of sulphur is considerable, seeming to be almost innocent.”

*Lewis' Mat. Med. p. 103.*

† WE find, that few of the most hardy trees and vegetables will live, and still fewer that will thrive, in the center of a large town. They are injured and destroyed by the coal smoke, which contains a great deal of sulphur: and it is this circumstance of the sulphur which is so unfavourable to them.

the state of sulphur; yet we find it prescribed in both states; viz. that of *vitriolic acid*, and *sulphur*; to the human species as sovereign internal remedies, upon many occasions: the former,

THE Wigan coal, with which this town has, of late years, been chiefly supplied, appears to contain a larger portion of sulphur than the coal which is produced in this neighbourhood. If that is the case, the gardens in and immediately adjoining to the town will be less thriving and luxuriant than heretofore. The coal of this neighbourhood burns almost entirely to a calx, (or ashes) and leaves few or no cinders that can be properly so called: whereas the Wigan-coal produces few ashes, and a considerable quantity of cinders. The farmers in the neighbourhood have been accustomed to till their grounds with the ashes which they procure from the town; and, before the introduction of the Wigan-coal, they made a tolerable good manure; but since that period, it is highly probable they are not only *useless*, but perhaps *injurious* to the ground: for large quantities of cinders are mixed with the ashes; and as those cinders contain a great deal of sulphur, they, instead of assisting, destroy or impede vegetation.

THAT the cinders from the Wigan coal contain much sulphur, is readily discovered from the burning of them; and which they will retain during several and repeated burnings. Wherever a cinder (of the Wigan-coal) is placed upon grass, the grass will turn brown and will be destroyed, the sulphur acting upon it in the manner it does upon the grass of the fields adjoining the copper-works. ---This circumstance, of the bad effects of cinders on the ground, is not, I believe, understood or suspected by the neighbouring farmers.



former, for restoring the constitution when weakened and impaired from many causes: and the latter has been recommended for the worms, and for purifying the blood and juices. But the most satisfactory, indubitable and incontrovertible proof of the innocency of the smoke and vapour from these works, may be had from the looks of the wives and children of the workmen, whose dwellings are nearly adjoining the works, and which, from the appearances and complexions of the inhabitants, might be taken for *Temples of Hygiæa*.

THE smoke and vapour from these works might prove unfavourable to those who have affections of the lungs from any cause, if they were to be frequently and immediately exposed to them.

COPPER, in its metallic state, when bright, clean and free from rust, is perfectly harmless to the human body: it is the *verdegris*, or green rust of copper, that is hurtful. The boilers which are used for cooking the victuals of the sailors on board our Men of War, are universally of copper, *not* tinned; but as they are daily and properly cleaned, and are kept perfectly free from the least particle

particle of that green rust which so really comes upon copper or brass pans when not duly cleaned, and which is the most deadly of all poisons, they are quite wholesome.

BRASS-PANS \* may be used with the utmost safety for all culinary purposes, provided they are kept perfectly clean. All cold or lukewarm liquors, when kept in a brass pan for some time, will produce a green rust upon the sides of the vessel at the surface of the liquor; vinegar, or whatever contains an acid, particularly and readily so: yet if the strongest vinegar is kept constantly boiling for many hours in a brass, or even untinned copper pan, none of the green rust will be discovered, and the vinegar will be harmless. If, therefore, all liquids are taken out of copper or brass pans immediately after they are removed from the fire, and the vessels cleaned out and well dried immediately, no bad consequences can ever happen from their use.

BRICK-KILNS emit a smoke and vapour that are unwholesome to all, and are particularly unfavourable to complaints of the breast and lungs, as asthma and habitual coughs, &c.

\* BRASS is a preparation from copper, and partakes of its qualities.

&c. They are, and ever must be, appendages to the town. Their influence, however, it is probable, is not very extensive; and as they are (at present) chiefly confined to the *north* end of the town, they may easily be avoided by those who are particularly affected by them.

THE amazing volumes of smoke which, regularly and incessantly through the year, issue from the *salt-works* near the south dock, become, no doubt, in some cases, unfavourable to the health of the inhabitants of that neighbourhood, merely from excess; and the buildings and chimnies of these works are so low, that the smoke cannot ascend properly, but involves the neighbourhood in soot and obscurity. For coal smoke, like that from *copper*, although unfavourable to vegetation, is not so, in a moderate quantity, to the human body; on the contrary, it becomes in large towns, in some respects, even salutary; as, from the sulphur which it contains, it is antiseptic, having the power of preparing the body to resist the power, as well natural as accidental, of malignant contagious diseases. There are occasions, however, in  
which

which it is well known to be unfavourable in any degree ; which are in cases of *asthmas*, and *coughs* from any cause.—It is not therefore the smoke of coals or any other fuel, that makes a town less generally healthful than the country ; but the various other vapours and effluvia of the town.

TAN-YARDS, and *soap-manufacturies*, although, like the oil-house, they are unpleasant to the smell, are as little injurious to health, for the reasons assigned on that subject.

PUBLIC BREWERIES, are in *some* degree salutary in large towns, from the quantity of *fixed air* which is thrown off by the fermentation of the wort. They are very numerous in this town.

ALTHOUGH the vapour of *lime-kilns* is fatal to those who are directly and immediately exposed to it ; yet as it partakes of the nature of what has been just now observed to be thrown off from fermenting wort (which would be equally fatal, under like circumstances), it will not be generally hurtful.

SLAUGHTER-

SLAUGHTER-HOUSES, may be deemed more insalutary than any of the above-named causes: and their suppression in the heart of the town, becomes an object that claims the attention and exertion of the magistrates.

IT does not appear from a review of the preceding *occasional circumstances*, that any of them are *immediately, generally* and in a *material manner* injurious to the health: on the contrary, some of them may be said to favour it.

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*Of the PARTS of the Town that are more or less*  
HEALTHFUL.

ALTHOUGH Liverpool, for the reasons already assigned (p. 20,) is, considering its size, remarkably healthful: and although it is so in general, and that few parts of the town are materially exceptionable, or derive any very considerable advantage from situation; yet, as distinctions may be made to induce

induce a choice and preference for the purpose of health, it may not be improper to point out and specificate such varieties. In doing which, for the sake of perspicuity, and to avoid a minute, unnecessary, and, consequently, tedious description, it may be sufficient to take a general survey in two directions; *lengthwise*, from north to south; and *transversely*, from west to east; \* separating each into three divisions.

IN dividing the former, or *longitudinal* direction from north to south, we may properly consider, the *west* side of the town as the first; the *middle* of the town as second; and the *east* side of the town as the third division.

THE *first* of these divisions will be distinguished by beginning at the northern extremity of Old-hall street; carrying the line through High street, Castle street, Pool lane, and across the old Dock through Mersey street; including all between the west-side of these streets and the river.—We shall find  
this

\* ALTHOUGH, as has been already observed, these are not the critically exact directions in which the town lies; yet they more nearly correspond with these than any other generally known and unsubdivided points of the compass.

this division and range of the town healthful, from a variety of causes. 1st. It is ventilated and has the air purified and renewed from the river with the westerly winds, which are generally supposed to prevail two thirds of the year; and which are supplied with freedom and without contamination. 2d. There is a descent towards, and ready communication with, the Docks and River, which carry off all impurities, and prevent the stagnation of filth and dirt in the streets and sewers. And 3d. the foundations of the greatest part of the houses are dry, being chiefly in rock in the central parts; which is a circumstance of great importance and advantage, as well for convenience as health.—The streets in this division are, however, in general narrow; and in some, the houses are much too crowded: which have always been justly considered as obvious disadvantages: yet from the dry, airy, exposed and elevated situation of the houses, some of these parts of the town appear, and are by observation found, to be particularly healthful.

THE *second*, or *middle*, division may properly include all between the boundaries of the first and Highfield street, Crofshall street, the lower side of Williamson square, Basnet

D

street,



street, and across the other parts to Duke street.—This division is evidently, from many causes, the least eligible; as, except the two extremities\*, it lies low; the streets are wet, dirty and damp; and the foundations of the houses are, for most part, damp, wet, and, of course, not very wholesome. White-chapel, and Paradise street, are the lowest situations in this or any other part of the town, and are consequently supposed the least healthful on that account; which no doubt they are; yet these streets derive considerable advantage from their openness and width, which admit of an uninterrupted current of air, that renders them much more healthful than they otherwise, from their low situations, would be.

THE *common sewer* runs in the direction of these two last mentioned streets, which has been generally esteemed an addition to their unhealthfulness. The disagreeable smell, which sometimes issues from it, chiefly creates this alarm; which is more imaginary than real; as the simple decay of any substance, whether

\* The upper parts of Duke street, from the airy and elevated situation of that street, come particularly within this exception.

whether animal or vegetable, is not so baneful to the human constitution as is commonly supposed: \* the proportion of animal matter is here, however, but very inconsiderable.

A *common sewer*, it is true, is the receptacle of the dirt and filth of a town, and contains a heterogeneous mixture of animal and vegetable substances; chiefly the latter; and which, when confined for some time in hot weather (at which times the sewers are most disagreeable, being seldom or never so in cold seasons), ferment, and occasion the effluvia so offensive to the smell. However, it happens at the same time, that a quantity of *fixed air* is, in consequence of such fermentation, thrown off; which, so far from being injurious to the human body, might, if conveyed in a more agreeable manner, be desirable, and esteemed salutary.

THE *fixed air* which is generated and sent off by this process, is of a somewhat similar quality with that which comes from the fermentation of beer (see page 38) or any other fermenting liquor or mixture. *Fixed air* is esteemed a powerful remedy in putrid diseases, and is introduced into the chambers of the

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sick,

\* See note to page 32.

sick, who are even, upon some occasions, suspended in the vapour of fermenting mixtures.

FROM the occasional ungrateful smell of a sewer, it may, no doubt, at times generate and throw off putrid air; yet that can seldom or never be in quantity sufficient to prevail over and counteract the vinous (if I may be allowed the term) air; especially as the proportion of animal substance is, as already observed, very trifling, and not more than sufficient to accelerate fermentation with the much greater proportion of vegetable matter therein contained\*.

THE salubrity of a *common sewer* is not here meant to be contended for; but as it is so much dreaded by many, it is very proper that its nature should be explained, to relieve the apprehension so generally entertained of its excessive injurious effects. The most convincing argument, that can be adduced in favour of the opinion here delivered is, that  
it

\* LONG stagnation, in cases of continued droughts, might favour the generation of putrid air, did not the tides, by frequently rising into the sewer, under our present consideration, cleanse it, and prevent frequent and continued stagnations.

it does not appear that the inhabitants of *White-chapel* or *Paradise street* have ever suffered, in a single instance, from any general disease that could be said to be occasioned directly by the effluvia from the *sewer*. *If any complaints or diseases have arisen from this cause, what were they? and what were the symptoms?*

WERE proper endeavours used, much of the offensiveness (and insalubrity, if any there is,) of *this sewer* might be remedied. It wants a more free and ready discharge: and if another and more superficial conduit was made through Cooper's row, and along the north side of the old Dock, such means would be more effectually accomplished. Such a judicious method has been proposed and planned by a very ingenious surveyor\*.

COULD a reservoir of water be obtained at or near the upper part of this sewer, so that a proper stream of water might occasionally (three or four times, or oftner, in a week) in the summer season be forced through it, such means would, with the improvement above-mentioned, contribute towards keeping it very sweet and clean. This expedient, no doubt,

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is

\* Mr. Eves.

is very practicable, and therefore surely deserves the serious attention of the *body-corporate*, as it must be a considerable and highly desirable improvement. Such a reservoir might be also useful in cases of fire.

THE third division, of course includes the whole of the east side of the town without, and eastward of the last mentioned line: all of which, except the top of *Shaw's brow*, the upper part of *Ranelagh street*, *Martindale hill* and the neighbourhood, lies somewhat low, and the foundations of the houses are in general damp. The streets and squares, from being mostly modern, are in general more open than those of the second division; which, with their vicinity with the country, makes them more eligible: yet, notwithstanding these advantages, this third division does not, when duly considered, appear to have the preference of many parts of the first division, or west side of the town; and is not equal to some of them.

IN dividing the town *transversely*, in three divisions likewise, from *west* to *east*; it seems proper to begin the line (of the north end) at the bottom of Chapel street, and carry it through Tythe-barn street to the Flashes.—The second, and middle division, may be bounded

bounded on the south by the north side of the old Dock, and the same side of Hanover street. — The third division, of course, comprises the whole southward of the old Dock and Hanover street.

IN this *transverse* division of the town, we shall find, as in the *longitudinal*, that the central (or second), with respect to situation for the purpose of health, is, throughout, the least desirable: yet the higher parts in the neighbourhood of Castle street, on the west side especially, from their exposed and elevated situations, and, what is of infinite importance, the *dry foundations* of the houses, are, where the streets are tolerably open and the houses airy and unconfined, from experience found to be scarcely exceeded by any other parts immediately within the confines of the town: and should a spirit of improvement extend to the widening of the streets in that neighbourhood, agreeable to a plan that was some time ago made out for that purpose, it would become as pleasant, healthful, and desirable as any other part of the town.

THE least eligible parts in this division are, John street, Temple street, Rainford's garden, and the neighbourhood; as they lie low, are close, confined, and dirty.



WITH respect to the first and third divisions in this transverse direction, viz. the *north-ern* and *southern* extremities of the town; it is to be observed, that they are somewhat alike exposed and elevated; yet as the streets and houses of the former are more narrow, confined, and crowded than those of the latter, the former becomes less eligible.

THE former also from being so immediately exposed to the sea air; which (as observed at page 27) is unusually sharp and piercing in the autumn, winter, and spring; renders that situation less favourable where a sharp keen air disagrees, from any cause; and particularly to those persons who are subject to coughs.

THERE is also another circumstance which deserves consideration: which is, that in all *large* towns, which lie lengthwise, in the direction of north and south, the south end has a natural advantage.

IT is well known that a south, or southerly wind is warm, moist, and relaxing; and that a north or northerly wind is the reverse, being cool, clear, and of an enlivening and bracing quality; and consequently more pure than the former.

WHENEVER



WHENEVER therefore the wind is in the *south*, the inhabitants at the south end of the town breathe an air in all the purity in which it can be had, at that time : but in its passage through the town, from being originally loaded and saturated with moisture, and having little spring and elasticity, it soon loses its vivifying refreshing power and quality, so necessary to the health of mankind, and becomes saturated with moisture, vapour, and other accidental matter, not only before it has pervaded the whole of the town, but even before it has penetrated its center\*.

WHEN the wind is in the *north*, the air is pure and dry ; and the streets become soon dry : so that the air, in its passage through the town, retains a portion of its spring and vivifying quality when it arrives at the southern extremity ; and which the moisture and effluvia of the town cannot deprive it of.

FROM

\* IT must be observed, that air, like water, is a fluid, and possesses the same principles of fluidity, gravity and the property of motion : hence, when air has a direction given it, it preserves that direction in the same manner that water does : therefore, a considerable part of the same air that enters one extremity of a street and town, passes through the whole ; and continues so to do, until a contrary direction is given to it by a change of the wind.

FROM the foregoing considerations, the air of the southern extremity of this, and every other, town, alike circumstanced, is, in general throughout the year, more pure than that of the northern extremity; and of course the south becomes more eligible than the north end, on that account.

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#### GENERAL REMARKS *on the* TOWN.

THE streets of Liverpool are in general narrow, and of course dirty: both which circumstances are unfavourable to health: the first, from impeding a free renovation and circulation of air; and the latter, from being a perpetual source of dampness, which pervades the houses; and likewise becomes, not only highly disagreeable, but also particularly hurtful to the inhabitants; a great majority of which are under a daily necessity to traverse the town on foot, and who find it scarce possible to preserve their legs and feet tolerably dry.—Few persons are insensible of the unfavourable consequences of wet feet.—

THE

THE Corporation is an opulent one, and daily increasing in wealth; and although the public annual expences are considerable; yet surely the health of the inhabitants deserves particular attention; and some exertions might be made for a purpose of such magnitude? An example is given in a neighbouring town\*. Policy in the guardians of the town, independent of every other consideration, demands it; as, the more numerous the conveniences and elegances of a town, the greater the inducement for visitors and settlers, both in and out of business; as also to those who have acquired fortunes in the town to continue in it, instead of quitting it, as has often been the case in Liverpool.—To the satisfaction of acquiring wealth, surely that of comfortably enjoying it must be the next and secondary consideration?—

THE streets in the north end of the town, and in the center in the neighbourhood of the *Exchange*, are, as has already been observed, in general narrow; and the houses crowded and confined. Were *High street*, *Castle street*, *Dale street*, and *Water street*, properly widened, such a stream of air would, in every direction

\* Manchester.

direction of the wind, regularly circulate through the whole, as to ventilate the neighbouring streets and lanes, and render those parts nearly, if not quite, as healthful as *Duke street* and its vicinity. And if airy and commodious houses were to be substituted for the present confined and crouded ones, those parts would become highly desirable for the joint purposes of health and business;\* and the town would acquire an elegance and grandeur not to be surpassed in the kingdom.

THE streets and squares on the east side and south end of the town, from being built upon an improved plan, make those the most desirable parts to inhabit; the neighbourhood of the south Dock and Wapping excepted.

A *Square* has generally been esteemed particularly healthful, on account of the open area which it affords; and which is supposed to render such form of building more airy than a street: this, however, is chiefly imaginary; and a wide open street appears to have

\* WOULD not the expence of widening be lessened by an increase which would take place in the value of the new fronts, when sold; on the west side of *Castle street* particularly; and especially by the judicious introduction of cross streets from thence into *Fenwick street*, by which much additional and *valuable* front would be gained?

have the advantage of the square in that respect. Air, as has been observed in the note to p. 49, has the same laws of fluidity, gravity, and motion as water: therefore, as in a pond or reservoir of water, although it may have considerable inlets and outlets, the stream or current is slow, and, oftentimes in many parts of it, scarce perceptible, and nearly stagnant; whilst in a brook or river, that preserves nearly an equal breadth along the whole, or greatest part of its course, the motion of the current is equable, and suffers no interruption or stagnation: so, in a *Square*, the current and motion of the air is impeded, and frequently, in tolerably calm weather, becomes stagnant in some parts; whereas in an open *street* the stream of air passes, as water in a river, in an uniform current, without detention or stagnation. So favourable is a street to the circulation (or a *draught* as it is usually expressed) of air, that it is commonly perceived to be in much quicker motion there than on the open plain.

THIS opinion is not only consonant with true philosophical reasoning, but may be also confirmed by observation. During a fog, or in a calm when the smoke of the town is not carried off by the wind, such fog or smoke  
may

may be observed in greater quantity in the squares than in the streets; and is a circumstance that may very frequently be noticed in *Cleveland square*, which, from its contiguity with the *salt-works*, may, when the wind is westerly, oftentimes be perceived to be filled with smoke, when the adjoining streets are tolerably free from it.

THERE can be no doubt, that of all parts in *immediate continuity* with the town, the upper parts of Duke street are, to the generality of constitutions, the most healthful.

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WITH respect to the internal structure of the houses, the modern ones, from the present, yet only late, improved methods of building, have the advantage of those that are less so, with regard to healthfulness as well as convenience; yet the houses are in general much too small; and the rooms, almost throughout, *too low*.

LOFTY rooms are extremely conducive, if not essential, to health; and a lofty room, although it may not be of large dimensions in other respects, has infinitely the preference and advantage of one that is low, notwithstanding



standing it may be otherwise somewhat bigger. In the latter, the same air is breathed over repeatedly ; than which, nothing can be more injurious to health ; and when there is much company in the room, they take into their lungs each others breath, and a mixture of the whole ; which is extremely unpleasing and disgustful in idea, when considered ; and may very often be found in reality highly disagreeable and offensive. So circumstanced, a room becomes close, overcoming, and uncomfortable.

AIR that has once been breathed, from being rarified and made lighter, ascends to the top of the room as soon as breathed. The air of a lofty room will therefore continue pure for a longer time than that of one that is low ; and that, in proportion to their heights ; as that circumstance gives a longer time and opportunity for the foul breathed air to escape out of the room, before it may become necessary to breathe it over again ; and towards which it makes many efforts ; as, by the chimney, especially when a fire is in the room : at the upper parts of the windows and doors ; or by any other crevices or openings that may be in the upper parts of the  
room



room from accident; or by design, as when ventilators are used. When a room has a fire in it, the air about the fire-place becomes much rarified, or lightened, by the heat of the fire, which gives an opportunity, by the laws of gravity, for the foul air which has been breathed, and which occupies the top of the room, to descend at the fire place and go off up the chimney. A fire therefore always acts the part of a ventilator, when made in an open grate and chimney, and not in a close stove.

IN windows where the upper sashes let down, if an upper sash is a little let down, the foul and breathed air of the room will go out at the opening at the top of the sash, as may be discovered by a familiar experiment with a lighted candle, which, in a room with a fire in it, or without, if the room contains much company, if held at the opening at the top of the upper sash the flame will incline outwards; particularly if the door is left open. The same happens at the door, under similar circumstances; when the door is open, the flame of the candle will incline outwards at the upper parts of the door case, but inwards

at

at the bottom\*. The use and advantage of upper sashes that let down, become, from what has been observed, very apparent and obvious ; as by such means a room may be better ventilated than by any other, a real ventilator excepted ; and cold is much less liable to be caught by such an expedient for the purposes of cooling a room, or freeing it from smoke or any other like offensive matter, or impurity, than by throwing up the lower sashes.

THE greatest fault that is to be observed in the houses in this town, even among the most modern, is, *the lowness of the rooms* ; by which they become less healthful, comfortable, elegant, and desirable, than if the rooms were lofty. This error may, perhaps, be attributed to builders, who erect most of the new houses on their own accounts, upon speculation, and for sale ; and who have no other views than such as are strictly economical and directly

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profitable.

\* WAS natural philosophy as generally understood as the domestic concerns of a house and family commonly are, these informations and descriptions would, here, be superfluous. That not being the case with many, otherwise sensible and intelligent persons, 'tis hoped no other apology for their introduction is necessary to the scientific reader.

profitable. When circumstances will not admit of the ground-work of a house being extensive, there can be no important obstacle to making it lofty, as that appears to be but an inconsiderable addition to the expence.

MERCHANTS *Counting-Houses* are, in common, much too small; and, being generally in the rooms of their warehouses, are also particularly low; whereby they become close and unhealthy; and severe colds are liable to be caught on going out of them into the air, in cold seasons particularly.—This is a consideration highly worthy their regard.

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*Of the EMPLOYMENTS of the Inhabitants; their  
USUAL MANNER OF LIVING; and WATER.*

AS there are few or no manufacturies in the town that require confinement to the house, the employments of the inhabitants are generally of the active kinds, accompanied with a good deal of exercise out of doors, which contribute, in a most essential manner, to health.

THE food and manner of living of the *laborious*, are better than the inferior orders in most other places experience from the reward of their labour; which, being derived from that grand parent of wealth in this kingdom—*naval commerce*—is more liberal than in most inland, notwithstanding they may be considerable manufacturing, towns.

THE habitations of the *poorest class*, in this, as in all large towns, who depend upon daily casual support, are, of course, confined; being chiefly in cellars: yet the diet of the *sobber* and *industrious* is wholesome and sufficient.—— Humanity here solicits to draw a shade over the wretchedness of those, who, deserting the tranquil prosperous paths of *sobriety* and *virtue*, exhibit a variety of misery in themselves and families: their children, most particularly, are objects of commiseration; who, frequently, from inattention and utter neglect, droop under the chilling blights of parental inclemency; and are—melancholy reflection!—often entirely severed, thus prematurely, from society; or, which is yet more lamentable, are, by the effect of vicious example, early initiated and confirmed in habits of immorality and vice, that threaten, not only their own ultimate ruin, but an interruption

to the welfare and peace of society.—Were the Legislature as studious and diligent in engaging and enforcing the habits and practice of virtue and morality, as in discovering the resources, and securing the revenues, of the kingdom; we might experience a desirable check to the profligacy of manners, so distinguishable in the inferior orders of the age; who, from the errors of education, are uninformed of, and less governed and restrained by, those laws of decorum which regulate and direct their superiors in knowledge and information of the world and its social refinements.—The task of moral reformation might be arduous; but surely is practicable in some higher degree? and would be highly meritorious. Vice and immorality always advance in a town in proportion to its increase in magnitude——*grow with its growth, and strengthen with its strength*——and therefore, in proportion as towns and cities increase in extent and populousness, the restraints upon vice become the more needful to be enforced, regulated and multiplied.——

THE dwelling of the diligent labouring mechanic, as, the *ship-carpenter, cooper, roper, &c.* is comfortable; and his diet is plentiful for himself and family.

THE employments and mode of living of the third and upper order of *Merchants* and *Principal Inhabitants*, are, in general, of a nature very salutary and desirable. Business and recreation are happily blended. Urbanity, and true british hospitality, are perhaps no where better or more *truly* exemplified and supported. Luxury, dissipation, and all excessive sensualities, are discountenanced. An emulation in acts of benevolence and good-will seems to actuate the whole. And from a general commercial intercourse of the inhabitants, distinctions are much levelled: they become united in bonds of friendship and harmony; and appear as the component parts of one great, allied family.—  
—That happy medium which separates an untutored familiarity from the extreme of ceremony, wherein good-sense is rarely offended by the rude freedoms of unrestrained vulgarity, or insulted by the grimace of modern refined manners, appears to characterize the town.—

FROM the busy, active scene which an extensive, unbounded commerce always presents, the town appears invariably cheerful, lively, and animated; and wears a perpetual air of satisfaction, freedom and complacency, the



regular concomitants of a social intercourse, unclouded by those affectations of precedence among equals in general endowments, so prevalent in all smaller and less employed and attached societies.

THAT graceful ornament, without whose concurrence all others would be incomplete—*charity*—is an embellishment that justly distinguishes and adorns the town. It is not limited to those conspicuous and extensive monuments, the PUBLIC CHARITIES—where the calls of distress are never unanswered; nay, are liberally accommodated, and often anticipated!—It is freely diffused in private; and finds its way into the most obscure retirements of silent unobtrusive penury and distress: and there is scarce a recess, however dark and retired, of poverty, that is not penetrated, illumined and cheered by the genial fostering beams of that heavenly attribute—CHARITY.—

THE necessity and benefits of public charities can never be too highly enforced and acknowledged: yet however valuable, they are inadequate to many purposes: and numerous are the occasions where *private charity* proves most acceptable, is best adapted and most consonant to the sensations and necessities



ties of the modest receiver ; as also more exquisitely grateful to the expanded feelings of the benevolent donor. The former is sensibly impressed with gratitude, and a due sense of the benefit conferred, at a time when his distress, tho' unproclaimed, is not less urgent. The latter enjoys the most refined gratification of which the affections are capable—that of dispensing, with his own cherishing hand, immediate comfort, and even existence, to a desponding sinking object ; whose greatest defects may be, his poverty, and an inability to combat the frowns and rigors of adverse fortune and a more prosperous world ; which his delicacy, and a native modesty, would still willingly conceal.—If *man*, in any instance, may be said to emulate his CREATOR, 'tis in an act of unaffected benevolence to a virtuous suffering *fellow-creature* !—

THE middle (active especially) station of life, is that which seems to assume the more immediate guardianship and protection of the more inferior orders. The titled and opulent, who move in the most splendid and ostentatious paths, although they may possess an equal share of general philanthropy

and benevolence\*—qualities conferred with, or attached to, no station, rank or title—yet,  
from

\* It seems difficult to ascertain the station to which these first, and scarce distinguishable, of moral virtues and duties; which include UNIVERSAL CHARITY and *good-will towards man*; are most peculiar. As they are capable of much refinement by cultivation, we might expect to find them most exquisite in the more exalted stations; which no doubt they are, when native and inherent there: but as they are so liable to be contaminated and disguised by address, ceremony and affectation, they become there most ambiguous and indefinite. The lower we descend, the less disguised they are found.

So closely attached are the divine and moral duties, that they become assimilated, and are congenial in a well informed mind; the latter being, primarily, emanative of the former.---Human-nature is undoubtedly capable of UNIVERSAL CHARITY and *good-will* to its own kind: therefore why, in this refined and enlightened age, is not the practice enforced by custom, and as rigorously exacted as integrity and honour in the various commercial and confidential concerns of life? Detraction, calumny, and every grosser unsocial passion assumes a very ungracious aspect, when vented on distant objects, unconnected and unattached by public or private obligations; and on whom it frequently falls nearly innoxious: but when deliberately exercised upon an unsuspecting intimate, its baneful influence is then most severely felt.

Too often do we see those, who not only deny a helping hand and voice to an acknowledged unoffending friend in the hour of his calamity; but, even in his most secure and happy moments, chill his every virtuous expanding hope and honest intention, by insidious suggestions, or open unreserved attacks upon that good-name, which  
it

from the forms of education, and an habitual course of gaily and pleasurable pursuits, too rarely are found to quit the allurements of the gay and fashionable world, for the dull irksome task of exploring the melancholy haunts  
of

it may have been the comfort, pride and business of his life to promote and cherish; and, in violation of every social, confidential tie, watch and seize every unguarded occasion to misrepresent and expose what *candour* and *charity* would justify and extenuate!---And for what? ---nine times in ten from a native unrestrained cruelty of disposition; or, at best, whim, spleen, or some other like capricious and misconceived, or precipitate and *uncharitable* incitement.---“*Just God*” exclaims the benovolent STERNE, “*what is there in this world’s concerns which should sharpen our spirits, and make so many kind-hearted brethren of us fall out so cruelly as we do by the way?*”

CENSURE, like public justice, may be a necessary curb upon licentiousness and moral indecorum; but it should, likewise, never be inflicted unless the charge is substantiated by the most unequivocal and dispassionate evidence; and, then as judiciously adapted. The above-mentioned exquisite judge of the human heart and passions, observes: “There are numbers of circumstances which attend every action of a man’s life, that can never come to the knowledge of the world; yet which ought to be known, and well weighed, before sentence, with any justice, can be passed upon him.---A man may have different views, and a different sense, of things from what his judges have; and what he understands and feels, and what passes within him, may be a secret treasured up deeply there for ever”.

of the lowest and most miserable of their fellow creatures. But the man of business, and, particularly, that respectable character, the *British Merchant*, from the daily opportunities he has of being sensible of the value and necessity of their services; of being witness to the toils and hardships they daily submit to, to gain by honest industry a pitiful, and that perhaps inadequate, subsistence for themselves and their helpless, suppliant, craving families; has his affections kept awake to their sufferings; voluntarily becomes their adviser and patron; and, in their hour of distress, when beset with calamities which humanity in every station is heir to—but which become augmented, and doubly aggravated in *theirs*—he takes upon himself the benevolent office of their guardian, advocate, and protector; and in him the faithful and industrious of the poor never want a friend and benefactor, whatever may befall them.\*—

FROM

\* FROM the situation of the town, and other concurring circumstances, the *Merchant* has ever been the first and leading character in Liverpool; and to him may be attributed every comfort, elegance, and enjoyment, of which the numerous inhabitants are in ample possession, and freely participate.

FROM the variety of pleasant roads in the neighbourhood of the town, the inhabitants have an opportunity of enjoying the pleasures and benefits of exercise and air; and which they do not neglect, particularly on horseback, which, no doubt, is the most advantageous and beneficial manner of obtaining them. The practice is however too much confined to the younger part; and it is to be regretted that it does not extend more generally to all ages and both sexes; especially to ladies who have the superintendencies of families, and have much necessary confinement; as it becomes so very essential to health under those circumstances; and many constitutions become impaired for want of it.

HORSEBACK exercise in the country air, seems particularly suited, and extremely necessary, to the health of the inhabitants, of both sexes, of this and every large town. It powerfully counteracts the unfavourable effects of confinement, attention to business, and all sorts of indulgences, consequent on a town life; and which no exercise within the town, however judiciously conducted, can effectuate.

THE markets are well stocked with provisions of all kinds, and of such qualities as are sufficiently

sufficiently salutary and desirable. *Vegetables* are in the greatest profusion and abundance, throughout the greatest part of the year; which, no doubt, contributes particularly to the health of the inhabitants. Vegetables, that are produced in the open garden, are said to be more early and in greater plenty here than in London, or many other more southern places.

CONSIDERING this is a sea-port, it is but very scantily supplied with fish. Fish is an article of food well suited to the inhabitants of large towns, as being, to the generality of constitutions, lighter, and less heating and gross than flesh-meats. From the judicious encouragement given, by the *Corporation*, to fishing-boats, it is to be hoped so desirable and salutary an article will become more plentiful\*.

WATER.

\* QUÆRE? Was this bounty extended still farther for this purpose; and were yet much larger sums of the public money annually appropriated to it; could it be better bestowed; provided the intention was fully answered, of bringing still larger quantities of *Fish* to market?



W A T E R.

THE *water* with which the town is supplied for culinary purposes; and which is well-water, brought from the east side of the town; is unexceptionable in all respects; except the awkward mode of its being conveyed [in carts] to the inhabitants; being sufficiently soft and pure. The well-water which is obtained in the heart of the town, and near the river, is hard and brackish, and therefore never used for these purposes.— This native purity of the water contributes a good deal to the health of the inhabitants.

STAGNANT waters have, in all ages and countries, been justly considered insalutary. They contain a variety of putrid animal and vegetable matters, as also the *spawn* and *ova* of different animals, which disorder digestion, and render the stomach and bowels foul and disordered. From the ropy, slimy, heavy quality, which such water possesses, it is not sufficiently diluent; and hence becomes a cause of obstructions and glandular and other swellings in the belly, neck, and other parts of the body: all which bad symptoms and effects are most particularly observed in children, and the female sex.

STAGNANT



STAGNANT pit water is very universally used in the neighbourhood of the town; and the sick who retire into the country for the benefits which it affords, are frequently under the necessity of using it, for want of better; wells being rarely met with at the best farm houses, where hired lodgings are usually taken. This circumstance, therefore, becomes a very necessary inquiry and object in the choice of country sick lodgings.—This kind of water will be much improved and benefited by being passed through a filtering stone, or being boiled, before it is used.

It appears by a variety of experiments made by the truly ingenious *Dr. Percival of Manchester*\*, that the pump water of that town is hard, and unfavourable to the health of the inhabitants; as producing and aggravating many complaints. The author describes, in a very satisfactory manner, the principal effects of different waters, in various parts of the world, on the human body.

THE public was favoured some years ago, by *Dr. Houlston* and *Dr. Worthington*, with very judicious accounts of the qualities of a  
mineral

\* *Essays, Medical and Experimental.*

mineral spring that was discovered near *Mount Sion*, and distinguished by the name of LIVERPOOL SPA; and which had acquired some reputation: but, from being in some instances suspected of producing unfavourable, and even fatal effects; which, if really the case, most probably happened from its too indiscriminate and injudicious use; it fell into disrepute, and is now totally neglected.—— It is a *chalybeate*, and therefore, under proper restrictions, capable of being useful in many cases where bracing, strengthening medicines are proper; but the reverse where such medicines and treatment are improper. No wonder therefore its unguarded use should occasionally prove particularly injurious in Liverpool, where (as has been already observed, page 23 to 30, and will be farther mentioned in the subsequent part which treats of the diseases of the town) from the state of the air and other circumstances, a disposition to inflammatory and other similar complaints and affections are remarkably prevalent.

THE drink of the inhabitants of Liverpool is, as in most other towns, of a mixed kind. *Malt-liquor*\*, the common beverage  
of

\* By *malt-liquor* is here to be understood, *Ale*.

of the kingdom, is much drank. Malt-liquor is, without doubt, in general best suited to a british constitution; but it is much to be regretted that so desirable a liquor is so rarely to be had in true perfection. That state of *general* perfection will however, most likely, long remain a *desideratum* [defect] in its preparation; as it depends on many concurring and connected circumstances, as, the grain; malting; brewing, which includes the season and consequent fermentation; water; and keeping. The quality of the *water* used in brewing, appears very much to govern the flavour and sensible qualities of this liquor, as also its effects on the body; as we find all the malt-liquor of every town, or country, to have uniformly a flavour, quality, and effects peculiar to the town or country in which it is made, although malt prepared in different parts is made use of. *London porter*, and the malt-liquors of different towns and countries, confirm these opinions.

Soft water seems the best adapted and most suitable for the purpose of brewing, as well to obtain a palatable as a wholesome liquor. *River water*, therefore, that is fresh and pure, appears to have the preference of *well-water* in general; as by exposure to the sun and  
air,

air, it acquires a softness which no well-water can have. The qualities of the waters of different rivers, now doubt render them differently suited to the purpose of brewing.—Is *Burton Ale*, which is so much distinguished for its superior excellence, made with the water of the river Trent?

DR. PERCIVAL observes, on water used for brewing of malt-liquor; that, “Strong table  
“beer, drawn from the barrel about ten days  
“after it had been brewed” with hard Manchester pump water, “curdled with soap as  
“much as the hard water boiled, which was  
“employed in its preparation. Hence it  
“appears that fermentation hath not the power  
“of softening hard water; and that the  
“wholesomeness of malt-liquors must greatly  
“depend upon the purity of the water which  
“is used in brewing them.”\* If hard water is particularly unfavourable to the qualities of malt-liquor, will not the softest water (when pure) on the contrary be most favourable? And hence, will not river water have the advantage of well-water? the former being uniformly much softer, for the reasons already assigned, than the latter. Is the water of one  
F fresh

\* *ESSAYS Medical and Experimental*, Vol. 1, p. 300.

fresh river better adapted than that of another? Do the waters of the *Thames* and *Trent* derive any advantage from their extensive courses and magnitudes?

THE brewing and preparation of malt-liquor is truly a *chemical* process; and cannot be so regularly and properly conducted by any acquired and given rule, without a partial knowledge of chemistry; sufficient of which might very readily be acquired by every *brewer* for the purpose; and which would be found of infinite assistance and advantage to him. Too much attention and regard cannot be given to so desirable and important a liquor.

THE quality of the *Hop* seems an object well worth attending to. Many, or all, *natural*\* vegetable bitters are *narcotic*; and, that, mostly, in proportion to their degrees of bitterness; and are most particularly so when in a fresh and fermenting state. Malt-liquor therefore that is new, and very bitter with hop, particularly with the Kentish hop, must be less healthful for constant drink than that which is less bitter, especially if prepared  
with

\* ARTIFICIAL vegetable bitters are, burnt wood, grain, pulse, &c.

with the milder Worcestershire hop, and kept of a proper age.

THE Ale of the *public breweries* of Liverpool, as being drank new, and, seemingly, from its flavour, in general made with the strong Kentish hop, is less wholesome than it otherwise might be. It is in general remarkably bitter; and so disagreeably so, that if the Kentish hop is not made use of, some other bitter, even less eligible, is substituted and added to the Worcestershire hop; as the mild and agreeable flavour of the Worcestershire hop is rarely to be discovered, pure and unmixed.

It is suspected, and I am afraid not without reason, that some deleterious narcotic ingredients are made use of by some brewers, for the purpose of rendering the ale intoxicating, and to save malt and hop. I should hope they who do it (if it is done) are not aware of the great injury they do their fellow-creatures by such practices: for surely no man would knowingly and intentionally endanger the health and constitutions of hundreds, and among those his best friends, for the sake of *any* addition to those emoluments which honourable and honest means would render perfectly sufficient, and comfortable? The



effects which ale has when it contains these noxious ingredients, are, a sickness and uneasy sensation at stomach, with pain and giddiness in the head; thirst, and feverish heat; altogether very much resembling the effects which smoking or chewing of *tobacco* has with those who are not at all in the habit of such practices. These effects are most particularly discovered in the morning, after drinking the ale overnight, and when but a comparative small quantity has been drank. Its not producing these effects in so sensible a manner when drank in the middle of the day, is owing to its passing off more readily, and its narcotic effects being counteracted, by the exercise and action of the day. Its producing more sensible effects with some than others, depends on habit, and the state of the stomach and constitution.

STRONG bitters, *merely as bitters*, are by no means so conducive to health, *for general use*, as is commonly supposed. As a medicine, they will have their use in particular cases: but, as the greatest part of the most valuable and powerful medicines will, if applied and continued in a state of health, induce a morbid or diseased state; so may, and frequently will, the constant use of bitters; as is most particularly



particularly to be observed with constitutions that are inclined to be weak and delicate.

“BITTERS are undoubtedly tonic [bracing] medicines, both with respect to the stomach and the whole system; but their long continued use has been found to destroy the tone of the stomach, and of the whole system; and, whether this is from the mere repetition of their tonic operation, or from some narcotic power, joined with the tonic in them, I am uncertain.”

*Cullen's first lines of the Practice of Medicine.*

§ MCLVII.

THIS is the opinion of the first Medical character in Europe on the continued use of bitters; in which that of *hops* may be included.

THERE seems to be a material difference between the effects of *natural* vegetable bitters, and *artificial* vegetable bitters. By the first, is meant, all vegetables that are bitter in their native original state, as, hops; tobacco, wormwood, &c. by the latter, such as are made so by art, and are not so in their natural state; as, burnt or high dried wood, grain, pulse, &c. and which (especially those that do not contain any oily matter) appear not to be possessed of the injurious qualities

of the former; and consequently become more salutary, for constant use.

LONDON porter, which is the most singular of malt-liquors, is peculiarly adapted to the generality of constitutions; which may in a great measure be attributed to its weak, thin quality; by which it is light upon the stomach, and desirably promotes the secretions and excretions.\*

As *porter* is more bitter than other kinds of malt-liquor in general are, it might, from the foregoing reasons, be thought less wholesome. The process of porter brewing is not generally known: its bitterness is evidently not *altogether* from the hop; and is most likely communicated *in part* by some *artificial* bitters; as, burnt or high-dried wood, grain, pulse, &c. which have already been observed to be less injurious than *natural* vegetable bitters. *Porter* when drank very new, appears however, like ale, to be much less wholesome than when kept to a proper period.

As malt-liquor is an object of so much importance in this kingdom, it well deserves a more particular attention of the legislature. If proper means were taken, occasionally to  
examine

\* Can the wholesomeness of porter be any ways attributed to its being made universally with *river* water?

examine and analyze the malt-liquors of the public breweries of different parts of the kingdom, it would lead to a knowledge of all the ingredients of which they are composed ; and which might be so regulated, as to prevent any abuses that may be practised to the injury of the health of the public.

THE liberal use of malt-liquors of the stronger kinds, as, ale, porter, and strong beer, are best suited to constitutions that are strong, or where much bodily exercise is used ; and are less so, being too gross, glutinous and heavy, for the weak, delicate, inactive, and studious. Malt-liquor of a moderate strength is preferable, with all constitutions, for constant use, to the strongest kinds.

RUM, as made into punch, or particularly when mixed with water only, is in very general use in this as in most sea-port towns. An immediate connection with the West-india islands, where a great number of the inhabitants have resided during longer or shorter intervals, has much promoted its use. As, agreeable to the proverb, that *custom is second nature*, so to those who have been, during the greatest part of their lives, either thro' choice or necessity, accustomed to the daily use of it, it becomes in some measure

congenial with and suited to their constitutions: yet with the natives of England who have not been in the so early and frequent habit of using rum, it does not appear, from experience, so very desirable a liquor for common, daily use.

Rum is a liquor that is very heating, containing a large portion of a heating essential oil; and in a particular manner appears to excite and encourage perspiration; which, although a desirable effect in the West-indies, is not so here, in the winter and cold seasons especially, where sensible perspiration is so liable to be checked by cold; and which as certainly produces unfavourable effects.\* The use of rum will therefore be most advisable and proper, and will commonly be found

\* *To the Medical Reader.*---Rum seems to be considerably *tonic* and *antiseptic*: hence well adapted to a warm climate, and less suited to a cold one; as well on account of its effects on the system in general, as on the stomach and digestion of the food in particular. The continued use of a tonic power in the cold seasons of a cold climate will be generally injurious to the system: in a warm one, the reverse. Whatever by its antiseptic power retards the putrefactive process in alimentary digestion, will be hurtful and improper in a cold climate; but salutary and desirable in a hot one, where it is so subject to be too sudden and excessive.

found to agree best, during the warmer summer months; and least so in the winter and colder seasons.

THE naturalist will justly conclude, that the product of a distant clime is not so likely to prove favourable to the constitution, when daily used, as what is produced, *good of its kind*, nearer home: hence the wines of *Portugal, France, &c.* are so desirable, and become so well adapted, to an English constitution.

THE wines of *Portugal* are in the most general use in this kingdom. *French* wines, from the extravagant prices which they bear, are rare and scarce; yet 'tis extremely probable they would be still better suited to a british constitution, for the reason here offered, than those of *Portugal*; and more especially as they agree so well with the inhabitants of *Ireland*, who have long been in the habit of using them very liberally.—It cannot be too much deplored, that two countries that by nature are so well disposed to assist each other, as those of *England* and *France*, with the various comforts of life, should be continually prevented from a more free and mutual intercourse.—The warmest climates produce in general the hottest spices, and the strongest  
and

and most heating spirits and vinous liquors; and which are used in warm climates in such quantities (not only through choice, but from being found conducive to health) as are found highly improper and injurious in cold climates; as is instanced in the comparative use of cayanne pepper and other hot spices, and Madeira and other strong wines and liquors, in the West-Indies and the north of Europe.

WE find that, in the northern countries of Europe, malt and vinous spirits are most desirable to the natives of those countries; and that they are remarkably healthy in their use, although it is commonly very liberal (as may be observed in the northern parts of Scotland and Ireland); but which would not, most likely, be the case, if *rum* was as freely and constantly indulged in.

THESE have ever been undetermined, speculative points *with the public*; on which every one offers an opinion consonant to his own feelings. Yet if the decision is obtained from the general run of constitutions, it will be agreeable to the doctrine here inculcated.

NOTHING can be more certain, than that nature has adapted every climate, its inhabitants and products, to each other reciprocally;  
whereby



whereby different climates call for different modes of diet, as well in eating as drinking; and that constitutions may be materially varied and modelled by change of climate, so as to adapt themselves to the use of whatever shall constitute either the necessaries or luxuries in the diet of every respective climate to which they may occasionally be exposed. No native resident of this kingdom could accustom himself to the habitual use of *Opium*, in the quantities in which we are informed it is almost daily taken by a native inhabitant of Turkey\*, without consequences fatal and very different from what are experienced there from its use. Yet was a native of this country to remove into Turkey, 'tis probable his constitution might adapt itself to the practice.

VARIETIES as remarkable as this might, in various countries of the world, be adduced in support of the opinion here advanced: and even in this kingdom, small as its utmost extent is in the great scale of the world, I am well assured that varieties in the selection and agreement

\* THE mahometan religion forbids the use of wine or intoxicating liquors; *Opium* is therefore substituted by the Turks, for the purpose of intoxication, and which it effects with them.



agreement of the different articles of the diet might be made and are to be discovered in the different parts of it. What refers to the peculiarities of the diet in this kingdom, here hinted at, has not, so far as I know, been investigated: it seems however worthy the inquiry of those whose opportunities and abilities are equal to it.

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*Of the* PREVAILING DISEASES *of the* TOWN.

FROM the favourable situation of the town: from the purity of the air: from the desirable and wholesome manner of living of the inhabitants; and their exercises and employments: and from the goodness of the water; as have been severally explained; Liverpool may truly be said to be a healthful town; and that, much more so than the generality of towns in the kingdom in proportion to their amplitudes; it being the first in size; the *Metropolis* excepted; as may be inferred from a comparative view of the tax on inhabited houses in the different towns.

LIVERPOOL

LIVERPOOL is also very populous, containing more inhabitants upon the same space of ground, and in the same number of houses, than *Manchester*, which may be thought unusually populous on account of its extensive manufacturies; as appears by a survey, given in the *History of Liverpool*.

NOTWITHSTANDING the general healthfulness of the town, as here and elsewhere alluded to, there are particular bodily affections to which the inhabitants seem especially subject. The air, as has been already observed, is pure and healthy; but, at the same time, is sharp and keen: and although such a state of the air may be, as it is, acceptable and favourable to the generality of constitutions; yet, from the sudden and frequent varieties in temperature to which it is peculiarly liable,\* it proves unfavourable to some constitutions; and particularly to those persons who have habitual complaints of the breast, as, *asthmas* and *coughs*; and are *consumptive*; or who are subject to *rheumatic complaints*. These two, viz. *affections of the breast*, and the *rheumatism*, seem to be the only complaints that can be properly called *endemic*, or peculiar

\* See from page 23 to 30.

culiar to the town ; and become so in consequence of the state of the air here referred to.

*Of COLDS with COUGHS.*

COLDS, with coughs and obstruction of the breast, are very prevalent and severe in the autumnal and winter seasons in Liverpool. I have known strangers, of different ages, and from various parts of the kingdom, who, in the course of their lives, have never had the slightest coughs ; who yet, upon residing here in the colder seasons, have had severe coughs and obstructions of the breast that have nearly proved fatal.\* Few strangers come to the town in the colder seasons without getting colds with coughs, more or less. The natives are much more free from these complaints than the other inhabitants who are not natives, from, no doubt, the effect

\* THE houses in the town are in general tolerably warm ; and, from the plenty of fuel, good fires are kept ; which may be subject to occasion colds on going out : yet these indulgences are become very universal in most towns.

effect which habit will always produce ; their constitutions being familiarized from infancy to the influence of the climate.

THERE is a disease to which young children in this town are particularly incident, and which so much resembles the *asthma* of grown persons, as not to be distinguished from it. It is discovered soon after the birth of the child ; and is chiefly to be observed amongst the children of the poor : from which, and its not being noticed by medical authors, it seems chiefly peculiar to the town, occasioned by the causes which have here been observed to promote coughs and complaints of the breast with grown persons ; the poor not having it in their power to defend their children properly and sufficiently from the cold.\* Improper and imprudent exposure of children too early after birth to cold, is, in this kingdom where the varieties in the temperature of the air are more frequent and sudden than in other parts of Europe, the cause of the loss of a great number of its infant inhabitants. I have great reason to suppose, from a comparison

\* I have treated this subject more at large in an *Essay on the Management and Diseases of Children and Pregnant and Lying-in Women*, p. 257.

parifon with different parts of the kingdom, that new-born children fuftain more injury from the various effects of cold in this town, than in moft other parts: and which happens from the ftate of the air above mentioned. It therefore behooves parents to be particularly guarded, and attentive to preferve their children from cold; efpecially immediately and a few weeks after their birth; which are the periods when they are the moft fufceptible of its injurious effects.\*

ALTHOUGH it would be a deviation from the prefent defign to enter upon a regular, complete, and fyftematic difcuffion of the preventive and curative intentions in thefe complaints of the breaft; yet it may not be improper to notice a few general and leading maxims for the purpofes of prevention and cure.

### *Of the PREVENTION of Colds with Coughs.*

MANKIND do not in general fufficiently guard againft and avert the occasional difeafes to which they are expofed. A flavifh  
follicitude

\* This matter I have alfo difcuffed more fully in the Publication juft referred to; page 40 and 47.

solicitude after health is as little to be countenanced and advised as a total neglect of it ; as the consequences of each might be equally unfavourable to its attainment. A *proper* caution will always have its advantages, and should never be neglected or despised with those who wish to enjoy health ; without which every other gratification is unsatisfactory, nugatory, and futile : but it happens unfortunately for mankind, that they rarely or never are truly sensible or informed of its value 'till they come to lose it, perhaps irretrievably for ever.—The same observation may be applied to almost every other blessing within our reach.—When we are immediately aware of the dangerous consequences of a disease, which we are satisfied is peculiar to our constitutions, or the place which we inhabit, we cannot be too guarded on every occasion that may excite or influence it.

IT is generally acknowledged, that in no country in the known world are *consumptions* so prevalent as in England : the immediate cause of which is, nine times in ten, *cold*, affecting the breast and lungs, accompanied with a cough ; and which, by neglect, becomes beyond the power of art to remedy ; and terminates in the fatal manner we are



daily the unavailing, helpless spectators of. These colds and their consequences happen from the changeableness and sudden variations in the temperature of the air, which we experience on account of an *insular* situation in a northern latitude, nearly contiguous with the continent: (see p. 25.): and as these causes and effects are observed to be more frequent and considerable in this than in most other parts of the kingdom, it behoves the inhabitants in a particular manner to endeavour to guard against and obviate them.

THE regular or frequent indulgence of rooms that are very close and warm, in cold seasons, disposes the body to be particularly susceptible of the impression and injurious effects of cold upon going out; and is by far the most frequent occasion of colds with coughs.—The regular habit of fires in bed-chambers likewise considerably promotes these complaints. Many begin with fires in their bed-chambers, without any other motive than as an indulgence; and are not afterward inclined or able to leave them off. It is a practice however that, with the healthy, of all ages, ought to be carefully avoided; as it will gradually tend to enervate and relax the body, and expose it to the incursion of diseases that  
it



it might otherwise never experience; particularly those which are the objects of our present inquiry.\*

I do not mean to insinuate, that they who, from long habit, particular state of health, or other necessary confinement to the room, have fires in their bed-chambers should instantly leave them off; but rather, that they who have not been accustomed to them ought to be cautious in beginning with them *as an indulgence*; and that they who have been in the regular use of them as an indulgence, should, at proper seasons, either decline them altogether, or use them sparingly and only occasionally.

THE strongest and best constitutions must, sooner or later, and more or less, inevitably

G 2

suffer

\* So prone are mankind to indulgences, that they are seldom able to resist them, although known to be improper, when desirable and within their reach.---No person can go out of a very close warm room into the open air in very cold weather, without suffering more from, and being more sensible of, the severity of the weather than if he quits a more temperate room. Therefore, does not the suffering, in that case, more than ballance the indulgence? If so, instead of an indulgence, does it not become a punishment?---Some of the writers of antiquity had so dreadful an opinion of sudden transitions from heat to cold, and *vice versa*, as to suppose that a mode of punishment in a future state,

suffer from the regular indulgence of close and warm rooms : the weak and delicate, readily and sensibly. A comparative view of the state of health of the various orders of the inhabitants of a town, and of even the different ranks and stations in one house and family, will fully elucidate and explain this subject.

EVERY means, that promotes an undue ballance or proportion between the temperature of the house and that of the open external air, will be hurtful.—*Carpets*, by the warmth which they supply to the feet, render the feet tender, and less capable of supporting and resisting the effect and impression of wet and dirty streets. Carpets also considerably attract every noxious vapour and effluvia, and thence become insalutary. Custom, convenience, and the pleasures of indulgence, are, however, advocates too formidable to be overcome by any considerations of health that are not immediately and sensibly felt and discovered ; and hence the general use of Carpets will most likely long prevail.

THEY who are subject to coughs, with, or without, pain of the breast or side ; or who are asthmatic ; ought to be sedulously attentive to their cloathing ; observing to vary it cautiously

cautiously and by proper gradations with the different seasons, so as to guard against the sudden varieties and changes in the weather and air to which we are exposed in all seasons, more particularly those of the autumn and spring. The influence of the *north-west* and *south-east* winds, as being very cold and commonly accompanied with moisture and rain in these seasons, requires to be particularly guarded against. We are too apt to continue our summer's dress too late in the autumn, and to throw off our winter's dress too early in the spring; which greatly add to the severity of *colds* at those seasons.

A few warm days in April will, with many, remove the warm winter's cloathing, and almost as certainly supply a cold: and colds, thus caught, frequently lead to the most fatal terminations. The weather rarely or never becomes regularly warm 'till the month of June; so that the valetudinarian, who is affected by cold, should be cautious in changing his winter's dress before that time; and would do well to remember the following old familiar adage;

Cast not a clout,  
'Till *May* be out.

WE are equally neglectful in the autumn; and many do not think of changing their light summer's dresses, for those that are warmer, before their remembrance is awakened, and they are compelled to it, by a severe cold, which may prove very troublesome, tedious, and, perhaps, dangerous.—The latter end of October, is, perhaps, as long as a change in the dress ought ever to be deferred, with those who are subject to colds. In general it is required much earlier. The state of the weather ought, however, to determine this point.

AUTUMNAL colds are commonly more severe and lasting, and their consequences more fatal, than those taken in the spring. In the latter, as the warm season advances, they more easily give way and abate. But in the autumn, as the cold and wet weather continues and increases, and as the body is most susceptible of the impressions of cold and wet after the regular heat and dryness of the summer, they become more urgent and obstinate.

It is therefore of the utmost consequence to defend the body from cold in winter and the colder seasons, and which cannot be done properly and effectually without the aid and  
free

free use of that valuable article which nature has in a singular manner liberally provided for the inhabitants of this island; viz. *wool*; as we have it variously manufactured, particularly as *flannel*. I am well satisfied that none who are subject to complaints of the breast can be *sufficiently* secured against the effects of winter's cold, and that of the vernal and autumnal seasons, without the free use of it.

FLANNEL *waistcoats*, worn over or under the shirt, are quite necessary and advisable; but, for better security, and to render them most effectual, they ought to be worn *next the skin*. The objections commonly made to the use of *flannel*, especially as worn next the skin, are; that it is unpleasant; and becomes a bad custom and an indulgence. As to the first; that is readily removed, custom soon reconciling it. With respect to the latter objections; it may be observed; that no custom can be bad or deemed an improper indulgence that is virtually and indispensably necessary towards preservation, existence, or the accomplishment and possession of good health; which this, in most instances under the circumstances here described, undoubtedly is. It is not here meant that the young,

and healthy of all descriptions, who are no way sensibly affected by cold, and who are free of complaints, especially those we are treating of, should indiscriminately use these precautions; but that, when these or similar complaints threaten or exist, they become salutary and necessary, and no more deserve the appellation of indulgences than any other parts of the dress that are esteemed the most essential.

As, on the one hand, indulgences are to be avoided when not essentially necessary; so, on the other, they should not be contemned or neglected when absolutely required. There are few points so needful to be justly distinguished as these two; and still fewer that are objects of more serious regard. Habits of the body, are like passions of the mind; too frequently in extremes; and seldom duly directed or restrained by the power of reason.

NOTHING can be of greater importance than preserving the feet perfectly dry, which, as has been observed,\* is a difficult matter, even with considerable care, with those who daily walk the streets.

IT



It may be accepted as a general and invariable maxim and position, that in all habitual, or frequently occasional, complaints of the breast, a regular warmth of cloathing, upon the principles here described, is indispensably and essentially necessary, as well for prevention as cure.\*

THERE is no climate whose seasons solicit a more nice and studious attention to the qualities of the dress; and yet no people neglect it so much as the English, who, in general, seldom materially vary the qualities of their dress throughout the year.

*Of the CURE of Colds with Coughs. With  
some Thoughts on CONSUMPTIONS.*

WITH respect to the *more particular medical treatment* of colds with coughs, it must always be directed by the circumstances of age, constitution, habit of body, &c. and therefore cannot be here clearly, satisfactorily and precisely described upon our present limited plan. It would also be superfluous and

\* INDIGESTION, and many complaints of the stomach and bowels, will oftentimes be more effectually relieved by a flannel waistcoat worn next the skin, in the winter and cold seasons, than by any other means.



and unnecessary, if not presumptuous, where medical assistance can be obtained from so many of the Faculty, distinguished for attention and abilities.—There is a remedy however, which, as being of much importance, and too frequently avoided and declined, I shall take the liberty to recommend; and that is, *blood-letting*, in the early state of colds with coughs. Reiterated, and I might almost say daily, experience empowers and urges me to a declaration of the general utility and necessity of this simple, familiar and easy remedy; but which is too generally neglected; I do not mean so much by the *Faculty*, as patients themselves; who frequently delay it, either from a dislike to the operation, or, which is often the case, from deceiving themselves with an opinion that they shall get well without any assistance, and are not bad enough to require it.

THERE is, perhaps, no part of the kingdom, whether town or country, where *blood-letting* is more required in febrile and other complaints than in Liverpool; very few where it is so requisite; as is discovered by its comparative effects, and the dense, fizy, inflammatory state of the blood drawn. In the complaint under consideration, its effects are frequently

frequently so sudden and obvious as to discover the most immediate and effectual relief. —As I make these declarations from experience, I do it with greater confidence.\*

IN London, *blood-letting* is, in general, found much less proper in most complaints, owing to a laxity, or relaxation, in the habits of the inhabitants, from the enormous size of the town, which disposes the air to be warm, relaxing and less pure; by which a thin state of the blood, and a disposition to putrescency in their febrile complaints, are produced. The very reverse however is the case here, where most diseases have an inflammatory tendency, and for which blood-letting becomes the best adapted remedy. *Blood-letting*, therefore, as a sovereign remedy on the occasions of which we are treating, should not be too long protracted: at least, proper medical advice ought to be *timely* obtained to direct and determine its propriety. It is a practice suited to all ages. Those advancing in years require it, when attacked with these

\* WHENEVER a cough is frequent, hard and dry; with tightness at the breast, and difficulty of breathing; with or without pain of the breast or side; *bleeding* becomes highly necessary, and should not be too long delayed.

these complaints, equally with the young and athletic.

THE evening and night air should be avoided as much as possible, especially in wet weather; as also rooms that are uncommonly close and warm.

ALTHOUGH bed and sitting rooms should be properly aired, and secured from damp and external cold; yet they ought not to be kept too close and hot by large fires. Fires in bed-chambers may be necessary occasionally, but ought not to be indulged in regularly and on every slight occasion. They are most necessary in cases of some standing and urgency; and especially where the cough is so troublesome in the nights as particularly to require them, and where it appears to be sensibly relieved by them.—They appear to be most particularly requisite in cases of the *real asthma*; wherein they frequently become indispensable, and essential to a comfortable existence.—They ought on all occasions to be as small and slight as circumstances will admit of.

MODERATELY warm liquids, that are not made too strong and heating with wine and spirits, may, in cases of recent colds with or without coughs, be taken *occasionally* at bed-time;

time; but ought not to be too much and frequently indulged in. Gentle and incidental sweating in the nights in bed, may be useful, especially at the commencement of a cold: yet profuse and continued sweatings can never answer any good purpose, and may do harm. A gentle breathing sweat, for a few nights after the symptoms of a cold are discovered, will frequently afford considerable relief; but which, if it does not, it is wrong to encourage and excite the nightly sweatings for any length of time.

MALT-LIQUOR, except small-beer, is better avoided, as being improper where there is obstruction at the breast. *Buttermilk* and *cheese-whey* are, when they agree with the stomach and bowels, well suited, and become proper as well for food as drink.—

THE *diet* ought in general to be of the light, cooling and vegetable kind, while the symptoms of cough and obstruction remain urgent.—*Fish* seems more proper than flesh-meats; especially white fish. I have repeatedly found *oysters* agree remarkably well in consumptive cases: they are cooling; will frequently allay thirst; and generally relieve costiveness more effectually and desirably than medicines,

medicines, particularly when eaten raw; in which state they become most desirable, when they are so liked and agree.—*Shell-fish*, of every sort, is well suited to these occasions.\* —*Fish* is less heating to the generality of constitutions than *flesh-meats* or *fowl*; and hence becomes more suitable in all complaints accompanied with fever, which colds and consumptions are.

SHOULD a *consumption* threaten or be apprehended, as frequently is the case with young persons: or on any other account should the air of the neighbouring country be thought proper for a cough and its attendant symptoms; a particular regard ought to be had to the situation. Every part of the country that is immediately exposed to the sea air ought to be avoided, as it will be, from the reasons offered at page 23, much too sharp and keen, and may aggravate rather than relieve the symptoms; the cough particularly.—*Crosby, Linacre, Bootle, Walton, Everton*, and the more exposed parts of the *Park*, come within  
this

\* SOME sorts of shell-fish, as *muscles, lobsters*, &c. disagree with some stomachs; but which most frequently happens from their being eaten either when out of season, or too raw and not done enough over the fire.

this description. The neighbourhoods of *Wavertree*, *Gateacre*, and *Derby*, are much more eligible and desirable; as the air of these last named places is more soft than that of the former. If the symptoms are urgent, a situation still more inland, and that is unexposed to cold winds, will be preferable.

SEA-bathing, a favourite recreation and remedy in this town, is in general better avoided in consumptive cases.

THE most useful precaution that can be given with consumptive complaints, is, to pay a suitable and *early* regard to them; when, benefit may be expected; which however is commonly too long protracted; and the parade of medicine and medical assistance is too generally, upon these occasions, most eagerly solicited at a period when they can be least useful, as if to expose their insufficiency.

THE late justly admired *Dr. Fothergill*, in an address to a medical society in London, on *consumptions*, very emphatically deploras the fatal consequences of neglect in these cases, in the following words. “I know, gentlemen, that you, as well as myself, have often occasion to look back at the fatal neglect, committed both by the sick themselves, as well as those who ought to have had their  
“ future



“ future health more at heart. With what ease  
 “ would many of the most incurable con-  
 “ sumptive cases have been prevented, or  
 “ cured at their first commencement? A  
 “ person whose emaciated figure strikes one  
 “ with horror, his forehead covered with drops  
 “ of sweat, his cheeks painted with a livid  
 “ crimson, his eyes sunk, all the little fat that  
 “ raised them in their orbits, and every where  
 “ else, being wasted; his pulse quick and  
 “ tremulous, his nails bending over the ends  
 “ of his fingers, and the palms of his hands as  
 “ dry as they are painfully hot to the touch,  
 “ his breath offensive, quick, and laborious,  
 “ his cough incessant, scarce allowing him  
 “ time to tell us, that some months ago he  
 “ got a cold, but he knew, perhaps, how he  
 “ got it; he neglected it for this very reason,  
 “ and neglected every means of assistance,  
 “ ’till the mischief was become incurable,  
 “ and scarcely a hope left of palliation. You  
 “ see multitudes of such objects daily, and  
 “ see them with a mixture of anger and com-  
 “ passion for their neglect and their suffer-  
 “ ings.” *Medical Observations and Inquiries,*  
*Vol. 4th. Art. xxiii.*

THE *first stage* of the disease is therefore  
 generally, either slightly regarded, or utterly  
 neglected.

CONSUMPTIVE patients are often amused in the *second*, or *middle*, stages of the disorder with various remedies, and change of situation in different parts of the kingdom; and which are recommended to them as certain means of cure. Woful experience however but too regularly confirms their fallacy, when too late to receive any benefit from the discovery. It is not likely that a confirmed disease should be effectually removed while the cause which first excited it remains; which in this case is, the state of the air of the *whole* of this kingdom.

THE resource in the *third* and *last* stage of Consumptions is frequently (with those whose situations in life favour it) a voyage to the *Continent*, as, the *south of France*, *Italy*, or *Portugal*. *Sailing* has been found useful in Consumptive cases; and as the *air* of the above named parts is milder than our own, benefit might reasonably be expected. But the expedient is mostly too long delayed: and it is much to be doubted whether a Consumption in, or approaching to, its last stage has ever been cured by it. I have seen some cases of Consumptions that I have the greatest reason to suppose were perfectly cured by a voyage to, and a temporary residence in, the *West-indies*: and it is highly probable, from

various reasons that might be adduced in support of the opinion, and notwithstanding any supposed disadvantage from the tropical situation of these islands, that such a voyage and residence are better suited to, and will be more efficacious in, the cure of consumptions, in every stage of the disease, than all the means that have yet been known or practised for that intention, in Europe: and therefore are well worth the trial, as all others seem to be of precarious and deceitful effect in that fatal disease. The length of the voyage ought to be no obstacle, as it promises to be useful. And we are informed that the accommodations in many of the islands are very desirable. Some of the Islands no doubt will have the advantage of others, as well for pleasure as health; such a choice therefore ought to be made as would be most conducive to both.\* *Jamaica* seems well adapted to the occasion; as well on account of the necessaries, conveniences and even elegances which, we are informed,

\* THE comparative salubrity of these islands seems to depend much on their state of cultivation. The oldest settled islands, from being cleared of wood, and being in the highest state of cultivation, are said to have greatly the advantage of those that have been lately settled, and are in a state of imperfect cultivation.

informed, it affords in a manner much superior to the other English islands; as from the variety of climate and temperature its mountains admit of; and which probably might be so regulated as to be accommodated to different constitutions, and the various stages of the disease.

BERMUDAS promises to be an eligible situation for consumptive persons. Being in latitude 32 north, the temperature of the air will be well adapted, and, from the vast distance (according to Guthrie three hundred leagues) which these islands are from any continent, will be liable to little or no variation: a circumstance of the utmost consequence in the cure of consumptions. *Waller*, the poet, who resided some time in these islands, speaks highly of the salubrity of the air, in one of his poems.

ONE advantage these Islands will have over the Continent, is, a similarity of language and customs; a total change of which must be inconvenient and disagreeable to a sick person, who is seldom able to accommodate himself to such changes, with that ease and satisfaction of body and mind so essential to a state of convalescence.—They are also of convenient access.—

MADEIRA, in the same latitude with *Bermuda*, and at a great distance from the Continent, seems an eligible situation. It is likewise always described as being very generally salubrious and pleasant.

THE opportunities I have had, of observing the effects which a residence in the West-indies has in consumptions, have not yet been sufficiently numerous, nor so accurately ascertained, as I could wish, to enable me to speak decisively on the subject.

IT is extremely probable, from the nature of the disease in this kingdom, that no medical treatment of it will ever be of any general avail *in the cure*, without a change of climate: for as the proximate, or immediately exciting, cause is, nine times in ten, cold, from the particular state of the climate, seasons and air of this kingdom, (as has been observed at p. 89) we cannot have a cure without obviating such cause and causes. No situation or climate can be proper that is subject to irregular variations in temperature, and where the air is occasionally cold, *or at all frosty*; which is the case, partially or generally, in all parts of France, Italy and Portugal. These situations, therefore, in which so much confidence has been placed, cannot be, are not,



not, equal to the intention. No such unfavourable circumstances occur in the islands above named; and hence they become well adapted to the purpose.

THE main objects in a situation, are, a *proper* and *regular* temperature of the air; both of which no part of any *continent* will admit of, as it will be liable to variation and occasional interruption on every change of the wind, independent of the very frequent and injurious effects of vapours, effluvia and miasmata, peculiar to all continental situations. An *island*, however, in a suitable latitude, at such a distance from any continent as not to have the qualities of its air affected by the continent, will have its temperature nearly uniform and regular throughout the year; and if nothing in its internal disposition prevents it, will be also otherwise *generally* and invariably salubrious. Instances of the truth of these observations we have in South Carolina, and the Bermudas and Madeiras; which are all in the same latitude: the first, is unhealthful; and the two latter as remarkably the reverse. An *island*, therefore, in a suitable latitude, and at a proper distance from a continent, will have every advantage over any part of any *continent*, we are acquainted



with, in consumptive cases : and hence the advantages which those of the West-india islands that are well cleared and in a proper state of cultivation will have, notwithstanding their tropical situation.—It is needless to say, yet necessary to urge, that the more early the change of climate is obtained the better. The trouble, expence and every obstacle will be diminished by an *early* compliance with such an expedient.

As I have not hesitated risking the opinion that no medical treatment will ever be of *general* avail in the cure of consumptions,\* without a change of climate, I have as little reluctance in concluding that a *proper* climate will be the *best adapted* remedy ; and that it will be sufficient alone and with little or no other assistance.

FROM the situation of some parts of Turkey (in Asia particularly), and the accounts we have of the pure, settled and genial state of the air and weather there, they seem well suited to consumptive cases.

INVALUABLE would that salutary retreat be, if any such could be discovered, that would  
avert

\* BY a *consumption*, is here to be understood, the *pulmonary* consumption, or ulceration and decay of the lungs.

avert the fatal effects of consumptions ! It is not yet discovered in Europe, notwithstanding most parts of it have been searched for that purpose ; nor perhaps will not, from the reasons already assigned. Such inquiry therefore becomes necessary to be extended to the other quarters of the Globe ; and well deserves the attention of men of genius and observation : but, to make it perfect, and readily useful, it ought to be general, and sedulously persevered in.

FROM the foregoing account, it appears, that Liverpool is not a desirable situation to those persons who are asthmatic or consumptive ; or who are subject to colds with severe coughs, and similar affections of the breast ; in the colder seasons.

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THE *Rheumatism* has been here observed to be the second and only other prevailing disease of Liverpool ; and its prevalence may be attributed to the same causes which has been observed to occasion coughs and other affections of the breast and lungs, viz. the variable temperature, and general sharp state,

of the air: hence the frequency of rheumatism with fever, which constitutes that severe and stubborn disease, the *acute rheumatism*, commonly known by the name of a *rheumatic fever*.

WITH those who are liable to attacks of the rheumatism, in any shape, the same precautions in the dress as have been offered at page 92 and following, ought to be *studiously* regarded. The necessity, however, of this caution is, upon this occasion, too well known to need enlarging upon.

SEA-BATHING is a well known remedy for the rheumatism, and appears from experience to answer a desirable purpose in every form and shape of the disease (of the chronic rheumatism) and in whatever part of the body it attacks, when judiciously conducted.

By the experiments made by Dr. Dobson, as referred to at page 26, it appears, that the sea water here is of nearly the same warmth, in the warm summer months, with Matlock bath. From which it is highly probable, that nearly equal benefit will be derived from it in that season, in rheumatic complaints especially.

A cold bath has been thought sometimes to transfer the rheumatism from the extreme  
parts,

parts, as the legs, arms, &c. to the internal, as the stomach, head, &c.; and also to fix the complaint and render it more severe in those internal parts when primarily there. This opinion is, I believe, more imaginary than really just; and the cases, which are supposed to occur, are derived most generally from erroneous conclusions. If they do happen, they are so extremely rare as not to discourage the practice of the cold bath, with suitable precautions, in all cases. I can say, I never observed the least disadvantage attend its use on any occasion; and never saw a rheumatic case that was not more or less benefited by it.

A warm climate is the most certain and effectual remedy for the rheumatism. I had occasion, some years ago, to attend to the case of a young man of about 20 years of age, who, during several preceding successive winters, had been seldom free from the rheumatism, and had had, occasionally, severe attacks in different parts of the body. At length it became so severe and general, and so stubborn as not to yield at all to the remedies usually applied on these occasions; and he was so reduced by pain and disease, that death seemed inevitable, and a desirable termination to his miseries. The deplorable state of the case called  
for

for and warranted any expedient likely, not only to preserve his life, but even to afford a mitigation of his sufferings, which were become truly exquisite. Knowing he had a brother settled in the West-indies, I proposed his being sent thither. He was immediately put on board a ship, ready to proceed to the West-indies, with scarce an expectation of his surviving the voyage: but as he advanced into the warmer latitudes, his complaints began to abate; and on his arrival at one of the islands, entirely vanished. He has resided there since, with occasional visits to England, free from the complaint.

THE *medicines* that are usually administered for the rheumatism are not numerous; yet as they require some variation in the form and manner of being given, according to different ages and constitutions; and, for the reasons offered at page 97; it seems better upon this occasion to avoid entering upon a description of the medical treatment of this complaint.

HOWSOEVER useful a partial and judiciously selected knowledge of the domestic practice of medicine may be, yet its too general and unlimited application is certainly disadvantageous to the public, inevitably occurring from the mistakes and misconceptions which  
must

must ever happen with those, otherwise the most sensible and intelligent, who have not attended to medicine as a regular, distinct study. Some diseases, those of early infancy especially, are so simple and uniform that they may be treated *domestically*; and it is necessary they should be so known and treated: yet there are many more that ought not to be meddled with, in that way, at all.\*

IT is a reflection that must be highly grateful and comfortable to the inhabitants of this large and populous town, that, from its natural advantages in point of situation, it is in general so healthy; and that they are almost strangers to many of the alarming and fatal diseases peculiar to other large towns; nay, that they are free from many tedious and troublesome complaints which prevail in much smaller towns, and even in a great many country places, in different parts of the kingdom. When any complaint becomes general throughout the kingdom, we commonly find it to be less severe in this town than in other parts. The *influenza*, as it was called, which  
was

\* I have treated of these distinctions and restrictions in the domestic practice of medicine more fully, in an *Essay on the Management and Diseases of Children, and Pregnant and Lying-in Women*, p. 17.



was so universal, and very fatal in many parts, in the year 1775, was less fatal here than in most other parts; as also that much slighter complaint, distinguished by the same title, which happened in the spring of 1782.—The *Dysentery*, or *Bloody-flux*, and *Agues*, very troublesome and distressing complaints, are scarce known here.\*—*Fevers* are rare, and very seldom of the lingering nervous kind, or accompanied with symptoms of putrescency; being most commonly of the inflammatory kind: so that fevers are rarely contagious, and as seldom prove fatal. There has been but one instance of a *truly* malignant infectious fever, happening in the town for many years; it was in the autumn of 1781, and appeared in Chorley street, which is one of the narrowest and most populous streets in the town, and nine died of it in one week: it was only of short duration, nor did it spread in any other part of the town.—In the autumn  
of

\* The last autumn (of the year 1783) produced a greater number of these complaints than the whole of many antecedent seasons had done: and which may be attributed to the unusual heat and closeness of the preceding summer; the unfavourable effects of which were felt in most parts of Europe.

of 1782 the quartan ague was very prevalent on the opposite side of the river in *Cheeshire*: it was universal in the neighbourhood of *Hoylake*, where many died of it; yet it was scarcely heard of in *Liverpool*; although, from the uncommon wetness of the season, it prevailed throughout the kingdom.\*

ALL these circumstances conspire to prove the purity and salubrity of the air, which wards off the disposing causes of relaxation and putrescency in the system.

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NERVOUS COMPLAINTS are, with both sexes, much less frequent than in most large towns; yet they but too often occur, especially with the *female sex*, from a natural delicacy of constitution, rendered more so by confinement and want of suitable exercise out of doors.

THIS

\* It is an observation of the modern father of physic, *Professor Cullen* of *Edinburgh*, that the *quartan*, or third-day-ague as 'tis commonly called, was never observed in *Scotland*, except with those persons who had taken it and brought it from *England*.

THIS comparative infrequency of those complaints commonly termed nervous, and which proceed from a partial or general relaxation and debility of the body, may be properly attributed to the purity and other qualities of the air already treated of (page 23 and 29). And the situation of Liverpool is favourable in these complaints; as the instances are frequent where they are sensibly relieved by a temporary or continued residence of those who, in many other situations, have laboured under them.—That convenient remedy, in this town—*sea-bathing*—may be employed to great advantage in most nervous complaints that are not attended with a cough and other affections of the lungs.

THERE are complaints of the head, stomach and bowels, that are almost peculiar to the inhabitants of large towns, who have passed their twenty-fifth or thirtieth year; accompanied with different symptoms in different persons; and which are occasioned by full living and various indulgences, and want of suitable exercise out of doors. On these occasions, proper exercise in the free open air, *particularly on horseback*, (see p. 67) will prove the best and most effectual remedy, and; in  
most

most cases, the only one that will afford a desirable and permanent relief; and its use should be steadily persevered in, as well for prevention as cure.

EVERY large town is unfavourable to lingering febrile complaints, from whatever cause they may arise; and to which *children*, of all ages, are particularly subject, from different causes, especially in the warmer summer months. Many children, under five or six years old, are fretful and feverish, and lose their flesh and spirits in the hot summer months, in the town, who are certainly and readily restored by being removed into the country. Many grown persons, of the female sex more especially, are in a similar situation, and who, as well as children, ought not to neglect the benefits of a temporary residence in the country in the summer season, when it can be conveniently obtained.

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### *Sea-Bathing.*

BATHING in the sea is here so general in the summer and autumnal months, that strangers, from the inland parts, are much entertained and surprized with the universality of the practice;

practice ; and, at the first impression, are almost led to consider the inhabitants as a species of amphibious animals.

BATHING in a cold bath, or the open sea, is upon the whole a salutary recreation and practice ; and there appears to be few habitual complaints wherewith it disagrees. It is least favourable in affections of the lungs. Therefore those persons who are subject to *asthmas*, *coughs*, *obstructions of the breast*, and are *consumptive*, should venture upon it cautiously, and never without proper medical advice. It is proper for the *rheumatism* [chronic] in any or every part of the body (as has already been explained) ; yet not in general advisable with those who are liable to the *gout*, especially frequent and severe attacks of it, and at the time that a fit of it threatens or may be expected.

A little opening physic becomes proper, previous to bathing, in all cases, where a laxative disposition of the bowels does not prevail.

OIL-CASE caps have of late been much used in bathing. It was an old and prevailing opinion, that unless the head was wet, no benefit could be obtained from bathing ; but that, on the contrary, it would be hurtful.

No

No advantage can attend wetting the head, in any case, except when the bathing is intended to remove a sore or some other *external* complaint *on* the head. When the hair is wet, it is not only uncomfortable, but also frequently occasions the head-ach, and may give cold.

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## C O N C L U S I O N.

THERE are, independent of air, situation, and other partial circumstances, causes which are general and peculiar to all large towns, by which the health of the inhabitants must necessarily suffer. The most important of which are, the vapour and various effluvia of a large and populous town, which cannot be removed, corrected and obviated perfectly and sufficiently for the purposes of good health; and for which there is no effectual remedy. The endeavours which have, in the present age, obtained in forming new streets wider, widening the old ones, and removing signs and other obstacles to the free circulation of air,

I have



have their uses.\* There are however other objects, which, although not of vast importance, yet that appear to deserve a consideration.

IN all large towns, the number of sick, infirm and ailing must be numerous; occasionally considerably so: and as in *this age of inquiry* (as well medical as political) every means and attention, the most minute, in the *healing* art is eagerly and sedulously sought after and regarded, as well with a view to the removal and cure of the various diseases and injuries incident to the human frame, as to palliate those which are incurable; thereby rendering the awful introduction, and generally painful passage, to eternity as comfortable, easy and peaceful as human endeavours will admit of; it is rather to be wondered at, that that doleful monitor of death—the *passing-bell*—should not have been silenced. How solicitous we are to divert the imagination of the dying man from a reflection upon his approaching destiny, even when his case is irremediable: such endeavours however become highly necessary in many cases where there is any prospect of recovery;

as

\* THE removal of the high flights of steps, so common in the streets of this and other towns, would contribute to the freer circulation of air in the streets.

as death or life will frequently depend upon the state of the mind and spirits.

TRANQUILITY of mind and composure of spirits, are objects particularly desirable in *fevers* of all kinds; as also most other complaints that are accompanied with nervous dejections; and are sedulously attended to, and promoted and encouraged, by the *Faculty*. Fear, and depression of spirits, have, in these instances, the worst consequences; and have been often known not only to accelerate death, but have been supposed the principal causes of it: and it is not to be doubted, that the dismal knell of a passing-bell, may, at the critical period of a disease which is accompanied with a depression of spirits, contribute to give it an unfavourable turn.

We are informed, that during the progress of a fatal epidemical fever at *Carlisle*, upon it being represented to the humane and benevolent *Dr. Percy*, then *Dean of Carlisle*, now *Lord Bishop of Dromore*, that the usual ceremony of the passing and funeral bell had an unfavourable effect upon the sick; he, with a philanthropy that does honour to his understanding, made a reform in the manner of tolling the bell.\* A Medical gentleman,

I 2

eminently

\* SEE an account of the Jail fever at *Carlisle* in 1781, by *Dr. Heysham*.

eminently distinguished in his profession, † when labouring under a lingering, fatal disorder, always suffered extraordinary dejection upon the sound of the passing-bell ; and which all his fortitude could not arm him against. Many instances of a similar nature might be produced.

TRADITION assigns various reasons for the first institution of passing and funeral bells, both as religious and political expedients. Latter ages however are become so enlightened, and have made such improvements in their laws, customs, and police, in these realms especially, as to be convinced of their inefficacy in a religious intention, and to render them needless as a political practice.\*

THE

† THE late *Dr. Bracken of Lancaster*, from whom I had the honour to receive the rudiments of my medical education.

\* MANY ceremonies of a similar nature on this occasion, are declining in countries that have been most addicted to superstition. It was the custom in many parts of *Germany* to place lighted black torches about the beds of dying persons, under the notion of preserving them from demons ; a practice, as is observed in the account we have of this matter, at once inspiring terror, tending to hasten, and as certainly on some occasions cause, death where it otherwise would not happen ; and disturb people in their dying moments. The *Emperor*, with that  
good

THE passing and funeral bell may be thought to have its use as a *memento*, or hint, to the healthy of their advancing dissolution. In very small towns and country places, it may have that effect, from the infrequency of its use; and may induce an awful, interesting solemnity: but in large, populous towns, where it is going daily *and hourly*, it is disregarded and unnoticed by the gay and healthy; and becomes a *real* disturbance to the sick, nervous and hypochondriack.\*

THIS *melancholy passport to eternity* becomes a means of additional grief to the afflicted friends of the deceased; whose sorrows are supported

good sense which has marked most of his actions in the civil and ecclesiastic reform of his dominions, has commanded this practice to be abolished.

It has been said, that, in former ages, when religious feuds and contentions ran so high as to be the frequent occasions of murder, the tolling of a bell was enjoined when any person was dying, to give notice and afford opportunity for the neighbourhood to assemble, to inquire whether the person was dying a natural death, or from violence. The custom of collecting a whole neighbourhood on this occasion, still prevails in many parts of the kingdom.

\* It seems as if the passing-bell had on some occasions been thought a disturbance in this town, as it is not permitted to go at any of the Churches during certain hours in the night.

supported and increased by so dismal a remembrancer of their irreparable loss.—Humanity is but too much disposed to indulge and brood over affliction, when excited by this cause: and the distress is commonly so poignant and exquisite, as to be, for a time, unappeasable; and to interdict every adventitious incitement.—One of the *Roman Emperors* being asked why he so much lamented the loss of a near friend, since it was *irretrievable*: his answer was—*therefore* he grieved.—

THE privacy with which funerals are now conducted, affords considerable relief to the minds of the friends of the deceased. And surely *every* occasional and incidental means, that can be devised, to soften the throb of genuine distress, should be adopted with that view; and all aggravating causes as sedulously avoided and removed.

MAGISTRATES, and the more exalted of the *Clergy*, are those from whom we must look for a complete reform in the instance under our consideration: I doubt not its meeting with the general concurrence and recommendation of the *Medical Faculty*.

BURYING the dead in Church-yards in the heart of large towns, has been universally  
disapproved

disapproved by the most eminent and learned of the *Medical Faculty*; and has been justly supposed liable to occasion diseases, from the daily custom of opening graves too early and prematurely. *Dr. Dobson* very properly and emphatically decries this practice. “*Church-yards* are another source of noxious *effluvia*. “These are generally formed in the midst of “crowded towns; and the more crowded the “towns, the more constantly are they broke “up. One generation is removed to make “room for another; and I have seen bodies, “yet *green in death*, forced from the grave “and exposed to the open day! Health, “humanity, decency, cry aloud against such “barbarities.”\* For the reasons given in the note at page 32, it seems a doubt whether the *effluvia* from *Church-yards* will be regularly, constantly and immediately injurious to health; yet thus much may be concluded with tolerable certainty, viz. that if the remains of a person who had died of an infectious malignant disease be prematurely exposed, there is great probability that such disease might be again communicated and diffused.

THE daily habit of viewing the miserable remains of our fellow-creatures, may somewhat

\* A Medical Commentary on *Fixed-air*, p. 18.



what help to reconcile so unpleasing a spectacle: yet, whenever it is seriously reflected on, the mind must recoil at so disgusting an idea, and wish for a removal of the cause which excites it. The delicate lady, and fine gentleman, who, when living, would consider the bare touch of an inferior 'of their own species, 'as an indignity not to be endured, are, in an open public church-yard, hourly trampled on, and subjected to have their undistinguished remains bandied about (contemptuously perhaps) by a rude rabble for their pastime.—How humiliating to human vanity!—

MANKIND, during a transient existence in this 'empire of vicissitudes', are unsettled; and seemingly by nature disposed to frequent change of situation: nay, they are but too much in a state of contention; each striving to supersede and supplant the other: and it might seem as if a spirit of rivalry and persecution extended to the narrow confines of their last cheerless retreat; and that, after the insurmountable struggles and toils of a short, unsettled, and painful existence, instead of remaining, as he might expect,

A tranquil tenant of th' unenvied grave,  
the wretched remains of the worn-out traveller

veller are dragged forth to public view, exposed to the prying eye of wanton curiosity; and are denied a resting place!

Nothing surely can be more inconsistent, in every point of view, than burying in so public a place as the Old-church-yard in this town; a place of daily general resort and pastime for all orders of persons, and as public as the most public street; and where the ceremony of the burial of the dead, instead of that awful solemnity which should always attend it, and which becomes heightened by ——“ the church-yard’s lonely mound,  
“ Where melancholy with still silence reigns”, appears, from the surrounding gaiety and confused clamours with which it is interrupted and confounded, little better than mockery.\*

THE mansions of the dead are also in so close contact with some of those of the living, that they may be said to inhabit together, and can scarce be considered as separated; as, frequent are the instances where *no earth* intervenes.

How different this from the primitive intention, and how contrasted with the usual awfulness and retirement of these situations.

——“ o’er

\* THE feelings of the *Clergy* on these occasions may be easily conceived.

—“ o’er the twilight groves and dusky caves,  
 “ Long sounding isles and intermingled graves,  
 “ Black melancholy sits, and round her throws  
 “ A death like silence and a dread repose :  
 “ Her gloomy presence saddens all the scene,  
 “ Shades ev’ry flow’r, and darkens ev’ry green,  
 “ Deepens the murmur of the falling floods,  
 “ And breathes a browner horror on the  
     woods.”

*Pope.*

PRIVACY was in former ages invariably consulted in the choice of situations for the repositories of the dead; hence, most likely, one reason why *church-yards* were designed for and appropriated to these purposes; being in sequestered spots, apart from towns and the most public parts; and are still, in such situations, rarely resorted to except for contemplation, and at the times of divine worship; when, the surrounding prospect of mortality induces an affecting solemnity, and has the effect of accommodating the mind to the serious duties for which a congregation assembles.\*

\* WE are informed His *Imperial Majesty* is now prohibiting the burial of the dead within the walls and suburbs of his cities.









